REORGANIZING BUSINESS ANALYSIS IN AN INFORMATION TECHNOLOGY ENVIRONMENT

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By

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REORGANIZING BUSINESS ANALYSIS

IN AN INFORMATION TECHNOLOGY DEPARTMENT

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FINAL DELIVERABLES

Reorganizing Business Analysis in an IT Environment

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Summary and Index

Reorganizing Business Analysis in an Information Technology Environment

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Contents

Keywords: business analysis, strategic analysis, SWOT analysis, process analysis, Pareto diagram, business requirements, business systems analysis

Abstract

This project was initiated to identify changes needed for the existing structure of the business analysis process and the organization of Business Analysts within the Information Technology (IT) department of a major financial institution. The organization currently experiences a large number of quality issues that are found after the products are implemented rather than during project Initiation, Planning or Execution phases. This results in re-work costs, shortage of resources for strategic initiatives and issues with both employee morale and customer satisfaction. Management has identified weak business analysis processes as a key driver in the high number of resource hours spent on day-to-day unplanned issues.

Analysis of data collected from interviews conducted with a cross-section of the IT staff were used to identify areas to be considered for process improvement. The current state was researched using data obtained from the interview process and data analyzed and prioritized using Cause and Effect Analysis. Pareto and Tornado analysis provided further insights into the data. Using the results of the data analysis, some potential short-term and long-term solutions were selected to address identified weaknesses, and potentially reduce time spent on unanticipated non-discretionary tasks, thereby increasing the availability of resources to address the organization's key initiatives.

Introduction

Background

With all of the technology available in today's market, financial institutions must deliver new and innovative products and services to stay competitive and retain their customers. This is even more important if the organization wants to increase profits and expand into new areas, making it even more advantageous to have an edge over the competition. Today's customers are much more technically savvy and expect their financial institutions to provide them products and services that make day-to-day financial transactions simpler. In this environment, organizations are wise to examine their organizational structures and processes with a goal for continuous improvement.

The organization examined in this study is an Information Technology (IT) department within a large, successful, financial institution. They have a solid reputation, known for excellent customer service and innovative technical solutions. Each year, during the annual planning process, key initiatives are identified to provide new services to its customers, maintain their technological edge, and grow the organization.

In recent years, the subject financial institution's annual project initiatives have had a low completion rate. In addition, an examination of the resource hours for IT staff indicates that resources spend the majority of their time on non-discretionary projects rather than their key discretionary projects. As seen in Exhibit 1 below, data analysis of resource hours within the IT department indicates a continuing decrease in the percent of time resources spend on development, indicating a continuing loss of development resource hours, in spite of an overall increase in resource hours.

Within the IT department teams, the same resources are responsible for both discretionary and non-discretionary projects. As a result, when unplanned issues arise, resources are required to put their discretionary development work on hold to address day-to-day issues. By identifying and addressing the causes of the unplanned issues that are draining resources from key projects, it is anticipated that resource availability for these discretionary projects will improve. Executive management identified weak business analysis, particularly requirements processes, as a primary contributor to this issue, with project re-works, bugs and other quality issues occurring post-implementation for many projects.

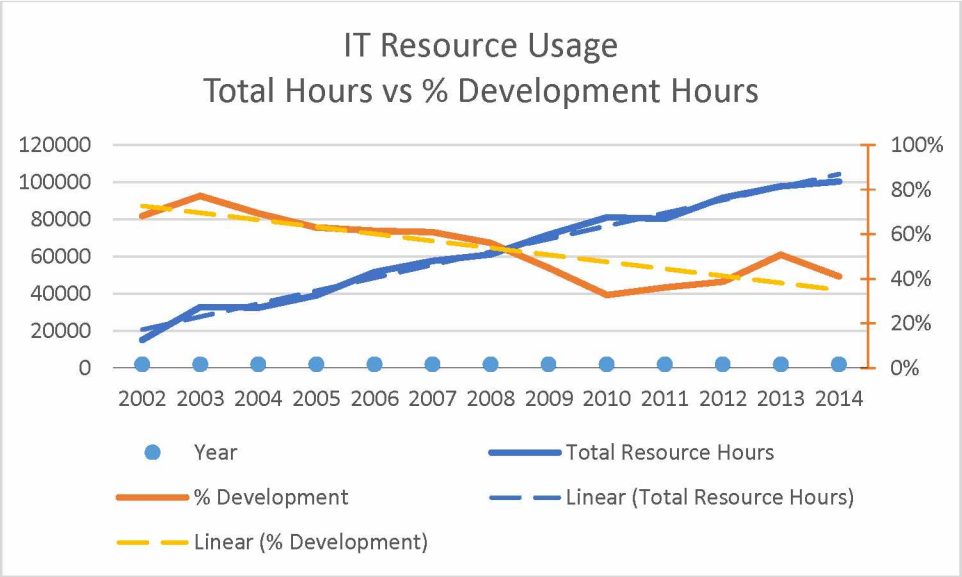

Exhibit 1- Analysis of Total IT Resource Hours vs. % Development Resource Hours

IT teams are arranged in a silo like configuration shown in Exhibit 2 with resources dedicated to a specific business unit rather than being on functional teams. Teams are comprised of a manager, a supervisor, programmers and business analysts who are responsible for all projects for their business unit, excluding network services. This silo approach will also be examined to evaluate its effect on the decrease in resource hours being used for development, since the silo team structure permits very little resource sharing across teams. With no resource sharing, some resources may be underutilized and could be assisting other teams that are short on resources.

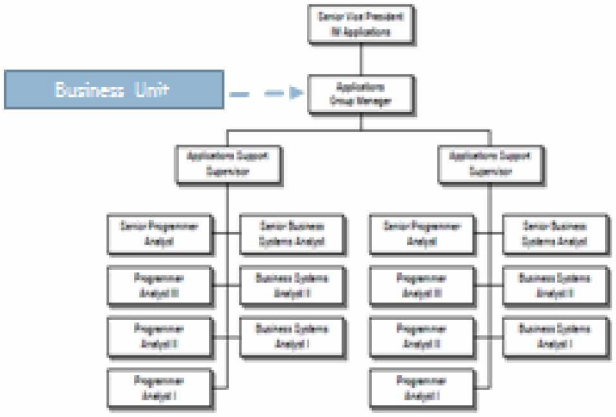

Exhibit 2 - IT Team Structure

Problem Statement

The organization's annual planning process identifies, prioritizes and schedules discretionary projects designed to provide new and upgrade existing technology to improve its competitive edge and deliver quality products to its customers. The completion rate of the annual discretionary projects within the subject financial institution has been decreasing. A review by management of the use of resources (Exhibit 1) reveals that a majority of the Information Technology's resource hours are spent on non-discretionary projects rather than the discretionary projects that are important to the overall success of the organization.

One of the primary drivers of the disproportionate amount of time spent on non-discretionary projects, including project re-works and bug fixes, was identified by management as internal business analysis processes, primarily the lack of effective project requirements gathering. In addition, the structure of project teams within the IT department has a silo configuration, with teams aligned with business units rather than by function. This project will examine both team processes and structures to identify areas contributing to the high resource hours needed to support unplanned non-discretionary tasks and projects.

Research Method/Approach

With the IT teams structured in silos and with each having some autonomy of how the teams are managed, the best approach to get a clear picture of the departmental processes was to gather feedback from a cross section of resources across several teams. Interviews were used to gather data, using open ended questions designed to identify factors contributing to the high number of resource hours spent on unplanned non-discretionary projects, including project re-works and bug fixes.

Initially the plan was to contact all members of the IT staff with the goal of twenty participants. Discussions with the IT management team resulted in reducing the contact list from forty to fifteen. The management team authorized on-site interviews during regular business hours. Participant acceptance was very good with thirteen interviews obtained, and an average of one hour spent with each participant. Although the sample size was less than hoped for, the group ranged across all roles within the IT organization with representation from a cross section of the teams.

Once the data was collected, responses were analyzed using cause and effect analysis, working back to possible root causes. In an effort to further refine the data, a subset of the group was contacted for additional feedback. Similar responses were grouped together as shown in the example in Exhibit 7; their root cause identified using the Ishikawa diagram in Exhibit 3 along with "Five Why" analysis. The frequency of comments relating to individual root causes were tallied to score each root cause.

A Pareto analysis was used to assist in assessing the cause and effect analysis. The Pareto Analysis is a statistical tool used for decision-making based on a principle first observed by Vilfredo Pareto and Italian economist. He observed that 80% of the money in Italy went to 20% of the population. The Pareto principle has been applied to many scenarios, including the theory that 80% of issues are caused by 20% of the problems, and was popularized by a quality management expert, Joseph Juran, in 1940. (Haughey, 2014) The Pareto principle was applied to the frequency data received from the cause and effect analysis.

The Pareto chart shown in Exhibit 10 was used to prioritize the root causes for areas of concern identified in the interview process, with the goal of identifying and prioritizing need for change. This methodology permitted the researcher to identify those root causes related to the largest number of reported issues, and potentially have the greatest benefit by giving priority to addressing those root causes first. In addition, executive management provided feedback for an impact analysis (Exhibit 11) to evaluate potential benefits of applying Best Practices to the identified root causes across organizational areas of IT based on the POPIT ™ model: people, organization, process, information and technology.

Executive management is risk adverse, and the Tornado diagram can help to determine the sensitivity of the system to change. A Tornado diagram (Exhibit 12) was used to assist in evaluating the potential impact, positive and negative,

of making changes to each of the identified root causes. The Tornado chart is a special kind of bar chart used in sensitivity analysis for comparing the relative importance of the variable. (Project Management Institute, 2013)

The SWOT Matrix is another valuable tool used in this study. Strengths, weaknesses, opportunities and threats (SWOT) were gathered as part of the interview process, and incorporated into a matrix in Exhibit 14. Strengths and weaknesses are internal elements within the IT organization, while opportunities and threats are external. The value of this SWOT analysis in strategic planning and decision-making is to use strengths and opportunities to help determine the best approach to address weaknesses and threats. (Harrison, 2015)

Data Collection

Fifteen potential participants out of a group of approximately forty IT staff members were identified. Prospective participants were selected from across all job categories, including executives, managers, supervisors, programmers and business analysts. Participation was voluntary, supported by the project sponsor and executive team, with interviews performed during regular business hours. Follow up with several participants was conducted to validate the data and to get feedback relating to anticipated impact of identified areas of concern.

Open-ended interview questions were designed to provide feedback on the status of the organization from a cross section of staff. Notes were taken on the responses by the interviewer with all comments recorded for later analysis. When appropriate, additional explanation was requested on specific topics to get clarification. Interviews were characteristically one hour in length.

Data Analysis

Data obtained from the interviews was refined to identify the participants' areas of concern. Ishikawa diagrams and the "Five whys" methodology were used to further refine the data and identify root causes. The Ishikawa diagram (Exhibit 3), sometimes call a Fishbone diagram or spider chart, is a cause and effect analysis tool, and was useful in identifying the

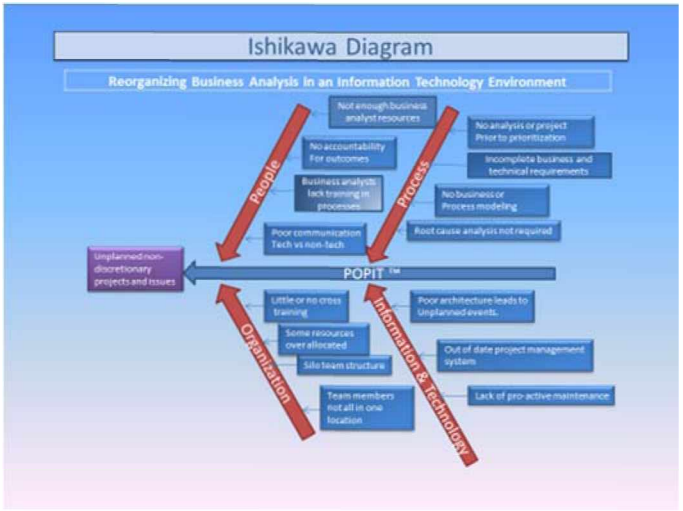

Exhibit 3- Ishikawa Cause and Effect Analysis

root causes related to participant comments. By stepping backward from the observed behavior and asking what could be contributing to this problem, underlying processes were identified. In this study, the symptom is a decreasing percent of resource hours charged to discretionary projects in spite of a continual increase in resource hours as demonstrated in Exhibit 1.

Analysis via the Pareto diagram, impact versus risk analysis (Exhibit 15) and Tornado chart (Exhibit 12) were used to identify areas within the IT organization to receive primary focus for possible process improvement. Root causes for the areas of concern were prioritized for potential process improvement based, with highest priority given to those areas that would take into account the Pareto analysis while also considering potential risk and ease of implementation. Some consideration was also given to those areas identified in management's assessment of impact, but the results of the Pareto analysis was given more weight.

Best Practices

A variety of books and articles were used to establish current recommended methodologies for business analysis. Roles and responsibilities, business analysis processes, and recommended organizational structures were researched. The International Institute of Business Analysis (IIBA), the Chartered Institute of Information Technology (BCS) and Project Management Institute (PMI) were primary resources used to identify best practices.

Today's culture dictates that there is "never time enough to do it right, but always time enough to do it over." Research by Raymond Dion from Raytheon found that forty percent of project budgets for software projects are spent on re-works. Other researchers, such as Barry Boehm estimate that it is closer to fifty percent of project cost. (BCS The Chartered Institute for IT Edited by Debra Paul, 2010)

Roles of the business analyst are diverse and best practices differentiates between the business analyst and the business systems analyst. Business analysis is defined as the set of tasks, knowledge and techniques required to describe the current or future problems, goals, needs, products, stakeholders, processes, organizational structure and/or other relevant aspects that add value to the business. The focus of business analysis is broad but abstract. Specialists, such as business systems analysts, will provide detailed solutions. (Foorthuis & Brinkkemper, 2009)

Systems analysis is defined as the set of tasks, knowledge, and techniques required to describe an existing or desired information system in terms of its context, boundaries, constraints and functionality. This kind of analysis is therefore not concerned with technical design, but instead with specifying the requirements of the software and possibly hardware. Systems analysis takes as its input the artifacts that are the result of a business analysis. (Foorthuis & Brinkkemper, 2009)

While organizations implement roles in a variety of forms, it is far more effective to define what business analysis is than to specify what comprises the role of the business analyst. An organization may find that business analysis tasks for a project are completed best by assigning a team of business analysts to the work. The work could also be completed by one business analyst, or by someone assigned to perform a combined PM/BA (hybrid) role, or other combinations. Ultimately, for project success, the important factor is that the business analysis activities are being performed effectively, consistently, and with sufficient quality. It is less important to know the title of the person performing the business analysis work. (Project Management Institute, 2015)

The business analyst roles needs to be clearly defined through the business change lifecycle. (Exhibit 4) The business analyst roles are important to the success of the project, with involvement in all aspects from alignment and definition, ensuring that the solution will satisfy business needs, through implementation and realization. Many organizations have failed to bring business analysis processes into the business change lifecycle at the start, causing a lack of alignment with business needs. Omitting to ensure proper alignment can result in the development or adoption of changes that fail to deliver business benefits and result in wasted resources, including human resources. (BCS The Chartered Institute for IT Edited by Debra Paul, 2010)

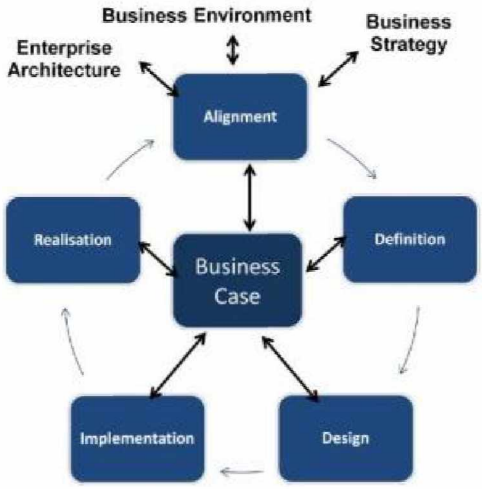

Exhibit 4- The Business Change Lifecycle

In business analysis, needs assessments should be performed to examine the business environment and address either a current business problem or opportunity. A needs assessment may be formally requested by a business stakeholder, mandated by an internal methodology, or recommended by a business analyst prior to initiating a program or project. As used in the PMI practice guide, a project is a temporary endeavor undertaken to create a unique product, service, or result. A program is a group of related projects, subprograms, and program activities managed in a coordinated way to obtain benefits not available from managing them individually. (Project Management Institute, 2015)

Needs assessment work should be performed before program or project work begins, and should occur in the alignment and definition steps within the business change lifecycle, therefore it is said to involve pre-project activities. However, during the course of a project, should external factors change (e.g. corporate merger, large percentage loss of market share, etc.), which influence or impact the project in process, the strategic business analyst will need to revisit the assessment and decisions made earlier to ensure they are still relevant. (Project Management Institute, 2015)

The RACI chart illustration in Exhibit 5 gives one possible approach for the needs assessment and illustrates the various roles of the stakeholders. The acronym RACI represents the involvement: **r**esponsible, **a**ccountable, **c**onsulted and **i**nformed. Clarifying the roles of each of the stakeholders in this manner creates a simple visual representation of the participation level of each of the team members while clearly communicating expectations for the listed set of requirements. (BCS The Chartered Institute for IT Edited by Debra Paul, 2010)

A needs assessment should include a gap analysis to analyze and compare the performance of the organization against the desired or expected performance. The analysis done during the needs assessment will then be used to create a business case. The needs assessment and the business case are instrumental in defining the project objectives and are the foundation for creating the project charter. (Project Management Institute, 2015)

Once initial assessment of the project has been completed and a project charter prepared, the Project Charter and all supporting documentation would be provided to the product owner and executive committee for review. Having this information available prior to authorizing the project will serve to reduce the number of resource hours currently spent on projects that are later canceled, or having resources over-committed because the size of the project was underestimated.

	Sponsor	Product Manager	Business Analyst	Product Development Team	Mobile Technical Team	Project Manager
Identify problem or opportunity	A	C	R	C	C	
Assess current state of the organization	A	I	R	C	C	
Recommend action	I	A	R	C	C	C
Prepare business case	I	A	R	C	I	I

Exhibit 5- Example of RACI Chart for Needs Assessment

Journal articles in the Harvard Business Review further support the value of the pre-project or strategic needs analysis. H.L. Mencken was quoted as saying, "There is always an easy solution to every human problem– neat, plausible, and wrong." (Mencken, 1949)

Businesses often pursue technology solutions for the wrong reasons. Andrew McAfee points out in "Mastering the Three Worlds of Information Technology" (McAfee, November 2006); companies often "invest in a technology because everyone else in the industry has purchased it or because it comes with glowing recommendations from consultants, analysts, and journalists." He casts this practice as an outside-in approach to problem solving: "Executives describe a technology that's available in the outside world and propose that it should be brought into the company. No one stops to think about whether the organization actually needs the capabilities that the technology offers." McAfee calls instead for an inside-out approach whereby leaders first scrutinize the needs and capabilities of the business in order to clarify a vision for it. The specific technologies required, if any, will then come into focus. (Moyer, May 2008)

Once initial assessment of the project has been completed and a Project Charter approved, the importance of the business analysts continues. Roles can vary from organization to organization, and as mentioned earlier there are several varieties of business analysts. To clarify the various skills needed in the business analysis process, it would be beneficial to have an overview of the functions that a business analyst may provide. Key to the success of the business analysis process is the strategic analysis discussed as part of the pre-project analysis.

Also important to the success of a project is an effective requirements management process. It is imperative that there is a consistent process and a clear strategy for gathering and documenting requirements. Possible steps in this process are demonstrated below in Exhibit 6: (BCS The Chartered Institute for IT Edited by Debra Paul, 2010)

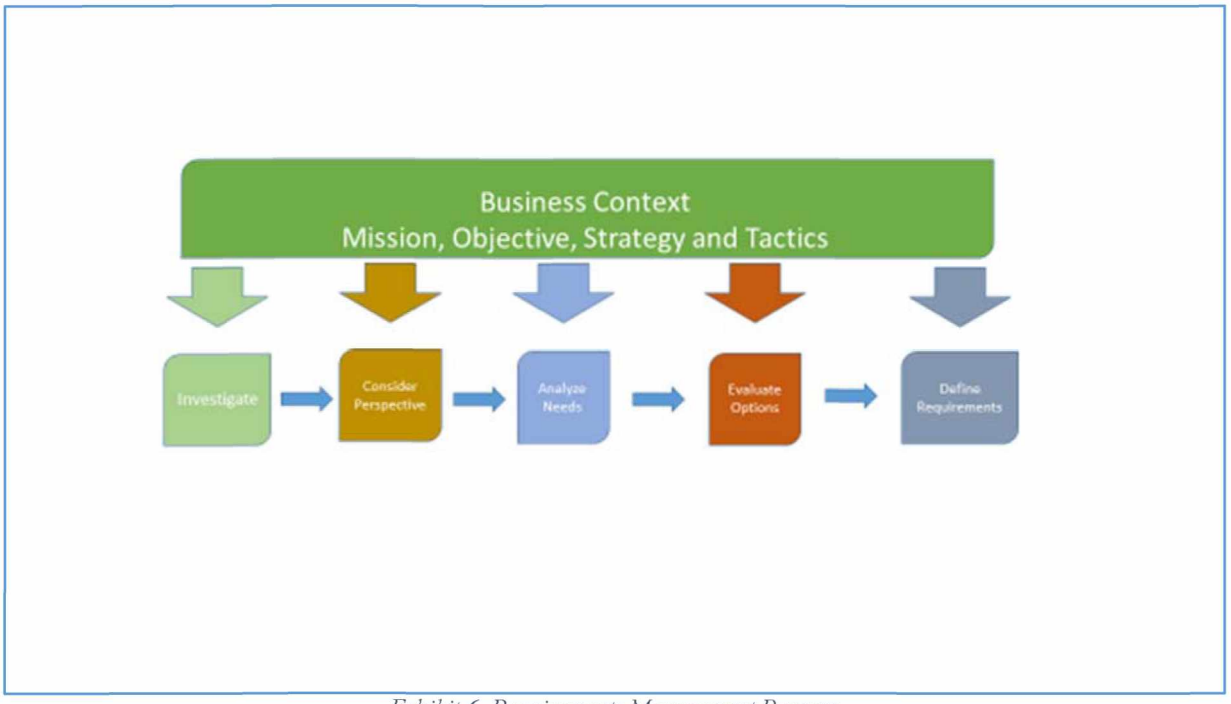

Exhibit 6- Requirements Management Process

Having a process is important, but along with a clearly defined process, flexibility is needed since one size does not fit all, and terminology can mean different things to different people. While this process shows as a straight-line process in Exhibit 6 above, it may be more appropriate to show these as continuous processes since there is a constant refinement that needs to be done as the requirements are defined.

Examining process within the discovery or requirements definition step, Ivy Hooks and Kristen Farry have expanded the requirements definition process into a nine-step process. ((Hooks & Farry, 2001)

1. Scope the product by defining needs, goals and objectives, mission or business case, high-level operational concepts, customer requirement, constraints, schedules, budgets, authority, and responsibility.
2. Develop operation concepts, expanding them to cover all phases of the product's life.
3. Identify interfaces between your product and the rest of the world, clarifying your product's boundaries, inputs and outputs.
4. Write requirements to guide product design toward what your customers need and want.
5. Capture the reason for the requirement's existence for each requirement and expose potentially dangerous assumptions and incorrect facts.
6. Level requirements according to system and sub-systems, ensuring that all requirements are written to the right level and can be traced back to their origins.
7. Assess verification of each requirement, identifying the verification technique and facilities and equipment required.
8. Format requirements and supporting documentation to ensure that you have included each of the appropriate types of requirements and that your development team members can find all of the requirements they must meet.
9. Baseline requirements after validating that they are correct, complete, and consistent, meet the project scope and do not add gold plating.

This process model does not explicitly call out requirements analysis as a specific step, however, requirements analysis will be performed in each of the nine steps. According to the authors, the type and amount of analysis needed will depend on the unknowns and the complexity of the project. (Hooks & Farry, 2001)

Research Finding/Results

Review of feedback from the initial interviews of the thirteen participants provided a large amount of data. Initially this data was broken down by individual participant feedback, followed by a grouping of similar comments. Cause and effect analysis was performed on these comments, utilizing "Five Why" analysis to identify potential root causes. Once the data from all participants was tabulated, the aggregate data was presented to three of the original volunteers. Feedback from this group indicated agreement with the data collected, and there was strong agreement among the reviewers that they had experienced similar situations. Results of this analysis were then used to create a Pareto diagram, demonstrating the frequency of each of the fifteen root causes derived from the interview results. Those issues to the left of the line perpendicular to the x-axis in Exhibit 10 illustrates the priority of issues for potential change. According to the Pareto theory, addressing these top issues will provide improvement in the high usage of resource hours charged to non-discretionary projects.

The 80/20 rule of Pareto Analysis identified as the "vital few" (Exhibit 10) areas for this study; that is, the root causes that could net the greatest benefit. Because of this analysis, six of the fifteen root causes fell into the "vital" view. That is, the problem areas identified in order of frequency reported were silo team structure, requirements gathering process, balancing of resources with demand, strategic business analysis, production support, and new business analysis methodologies. Further analysis using feedback from executive management was used to determine if other factors, such as risk or impact on specific areas to the department would affect their priority or significance

A SWOT analysis (Exhibit 14) in was also used to demonstrate reported strengths and weaknesses within the IT organization, along with external opportunities and threats. The value of this SWOT analysis in strategic planning and decision-making is to use strengths and opportunities to help determine the best approach to address weaknesses and threats. (Harrison, 2015)

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Data Collection

Thirteen of the fifteen potential participants volunteered for the study. Each was interviewed in private and asked a series of open-ended questions relating to the IT departments processes with regard to handling non-discretionary (production support) and discretionary (development) projects and how business analysis processes and team structure contributed to the high incidence of unplanned non-discretionary projects such as product re-works and bugs. Information regarding possible improvements was also requested to provide further discussion points, and to gain additional insight into the organization's strengths as well as problem areas. The researcher took notes on each interview, capturing all statements made by the participant whether relevant to the question or not. Some participants had to be guided back to the focus of the interview, but most were very co-operative and forthcoming with insights and recommendations.

Data Analysis

Initially, the data was reviewed and similar responses were grouped together (Exhibit 7). Using a table participant responses group by similar responses and tallied by participant number. Only one point was awarded per participant for any reported concern, whether mentioned once or multiple times.

	1	2	3	4	5	6	7	8
no processs analysis			✓		✓			
inconsistent business analysis processes (no business modeling)					✓		✓	✓
Root Cause Analysis or Lessons Learned not done				✓	✓			

Exhibit 7- Data collection worksheet

Fifteen root causes were identified using cause and effect analysis and 5-Why Methodology. The Delphi Method was then used to further refine the data, having a subset of the group of participants go back and review and comment on the root cause analysis.

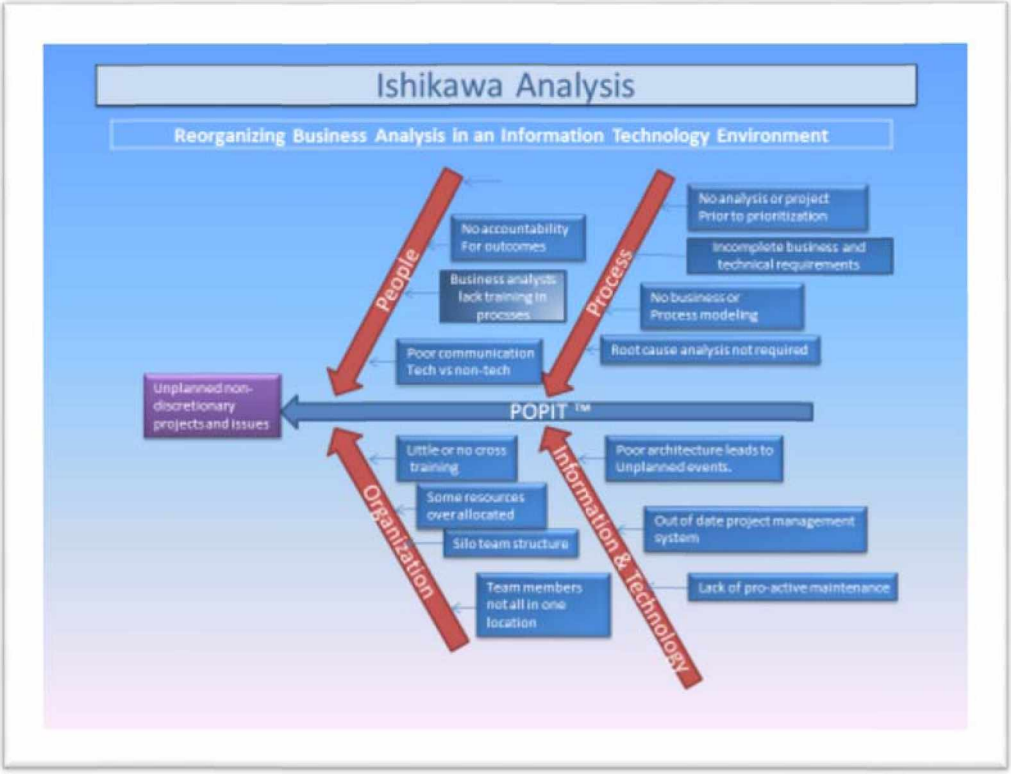

Exhibit 8- Ishikawa for Root Causes of Unplanned Non-Discretionary Resource Hours

The Ishikawa (Fishbone) chart[1] above (Exhibit 8) represents a portion of the causes identified in this research project and has been condensed to represent a cross section of each represented area. To facilitate discussion of the identified root causes in tables and charts, short names were assigned. Exhibit 9 provides a description for each of these root causes, and are important in the analysis and recommendations for these areas.

[1] (Six Sigma Tutorial, 2005-2011)

Root Cause	Short Name	Summary
lack of business and process analysis processes	ad hoc business analysis	need business modeling processes to enhance the business analysis process
ineffective method for balancing resource availability with project demand	resource capacity management	need improved skills in creating balance between available resources and project planning
inefficient use of business analyst resources	resource usage	resources often expected to cover too many projects at once, causing loss of focus and creating possibility for errors
lack of effective communication	weak communication skills	weak communication skills between team members, teams and stakeholders
lack of recognition for team or individuals	rewards and recognition	no formal high visibility recognition of team or individual success
lack of accountability	lack of accountability	ownership not clearly communicated and unclear person responsible to make decisions
no change management process for project change requests	scope change management	no scope management process defined. Scope changes not formally signed off by project sponsor or clearly documented
no consistent production support process	production support process	unplanned day-to-day issue management procedures are not clearly documented
no standardized project closure process	project closure process	implementation process is not consistent for stakeholder approval, training, documentations and migration to production
no standardized requirements process	requirements process	no documented standardized requirements gathering process
no standardized testing process	ad hoc testing	lack of uniform testing procedures or separation of duties. Business analyst may write requirements and perform testing on project risking not spotting misunderstood requirements
no strategic business analysis	strategic business analysis	need process to perform high level project analysis (project charter, roi, feasibility) to assist management in business decisions
out of date project request system	pm application	current project request system does not have wide range of capabilities needed for department needs
teams aligned by customer and not by function	silo team structure	resources dedicated to specific business units/teams; restricts ability to learn new things, limits resource availability; restricts communication
unclear job requirements	roles & responsibilities	new job descriptions needed to better define roles and responsibilities of business analysts and match required business analysis skills

Exhibit 9- Root Cause Short Names and Description

The Pareto analysis for this project was created using the count and the cumulative percent of the root causes sorted in descending order. This approach permits a clear vision of where the most significant gains can be made. In the Pareto

analysis in Exhibit 10, the "20% that will give you 80% of the improvements" are identified at the intersection of the 80% vertical axis with the cumulative percentage line and then dropping a line to the x-axis.

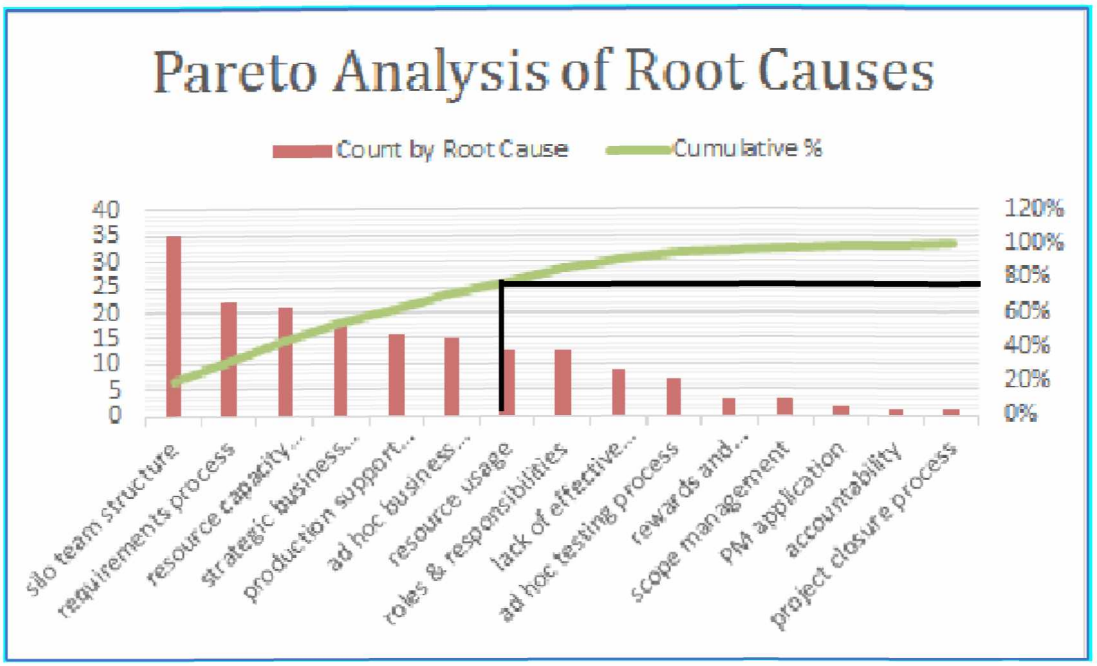

Exhibit 10- Pareto Analysis by Root Cause for Resource Hours for Unplanned Non-Discretionary

Based on the theory of the "vital few" as described by Haughey and applied to the Pareto chart priority would be to construct a line from the 80% line parallel to the x-axis and draw a perpendicular line at the point where the line intersects the cumulative percentage line. You would then give priority to the issues to the left of the line shown in Exhibit 10. That would indicate priority issues to be the silo team structure, the requirements process, resource capacity management, strategic business analysis, production support process, and ad hoc business analysis. Those root causes on the left side of the line dropped on the x-axis are what some term as the "vital few", with the remainder being labeled as the "trivial many" (Haughey, 2014)

To determine potential effect of changes, executive management was asked to rank impact across all POPIT ™ components using a scale from 0 to 5 with zero indicating no impact and 5 high positive impact. In Exhibit 11 below color codes have been utilized to more easily observe results across all POPIT ™ classes, with dark green being identified as high impact for the given class, People, Organization, Process, Information and/or Technology as well as the indicator for above average across all classes.

The following components were examined with the POPIT ™ methodology and defined as listed below to executive management for them to consider when evaluating impact (Exhibit 11):

- People - Roles, job description, skills, competence, management activities, culture and communication
- Organization - Business model, external environment, capabilities and business memory
- Processes - Value proposition, value chain and core business processes
- Information - Information requirements and standards
- Technology - Technical and application architecture

The sample size for staff interviews was smaller than planned and did not include all teams, so there is some risk that the Pareto analysis and root causes analysis are not representative of the entire department. However, considering that the majority of the participants of the study are closer to the process, and that the scoring for the Pareto diagram was based on how many of the participants found issues in the same areas, for the majority of the named areas, the data appears to have value. In addition, once the data was tabulated, a sub-group of the participants reviewed the data set

and root causes and provided feedback. In this review process, there was only one reported issue that was considered to be an outlier, in that none of the participants that reviewed the process had similar experiences. This issue was noted, but was considered as an outlier.

Effect of Improving Root Cause (Scale) **0 (No Impact)** ➲ **5 (High Impact)**

Root Cause/POPIT	People	Organization (IT)	Process	Information	Technology	Average
weak communication skills	3	3	5	5	3	3.80
PM application	3	4	5	4	3	3.80
strategic business analysis	3	2	5	4	4	3.60
ad hoc business analysis	4	0	5	4	4	3.40
roles & responsibilities	5	5	2	4	0	3.20
requirements process	2	0	4	5	4	3.00
scope management	0	2	5	4	4	3.00
ad hoc testing process	2	3	4	3	0	2.40
lack of accountability	5	3	4	0	0	2.40
silo team structure	5	4	2	0	0	2.20
resource capacity management	5	4	2	0	0	2.20
production support process	2	2	3	3	0	2.00
rewards and recognition	3	0	3	2	1	1.80
no project closure process	3	2	4	0	0	1.80
resource usage	3	0	0	0	0	0.60
Total by POPIT class	**48**	**34**	**53**	**38**	**23**	

Exhibit 11 - Impact of Root Cause on POPIT ™ Categories; Management Assessment

Comparing the top six areas from the Pareto diagram (team structure, requirements, resource capacity planning, strategic business analysis, production support and ad hoc business analysis) with the results of impact analysis in Exhibit 11, was done to clarify points of consensus between the Pareto diagram and management. If we consider priority areas of concern to be those that received above average scores (3 and above), the areas would intersect with the Pareto diagram in the strategic business analysis, ad hoc business analysis and requirements processes, but management's view of other significant areas were communication, an up to date project management system, roles and responsibilities and scope management. Team structure, resource capacity planning and production support processes averaged below the designated score of three set to determine if it was "worth pursuing" for this analysis. To further investigate management's insight into needed changes in the organization, additional data was gathered.

A Tornado diagram was created to assess the relative sensitivity of process changes to root causes against management's perceived risk (negative and positive) to the organization. These scores were assigned based on perceived risks of how changing the status quo might affect the designated process. Executive management is risk adverse so that risk of negative (unacceptable) response to changes were also evaluated. Being adverse to risk, the mid-point, or lowest acceptable risk was set at +1 to minimize risk of any negative impact.

Risk of Addressing Root Cause (Scale)	**-5 (High Unacceptable Impact)**	➲	**+5 (High Acceptable Impact)**

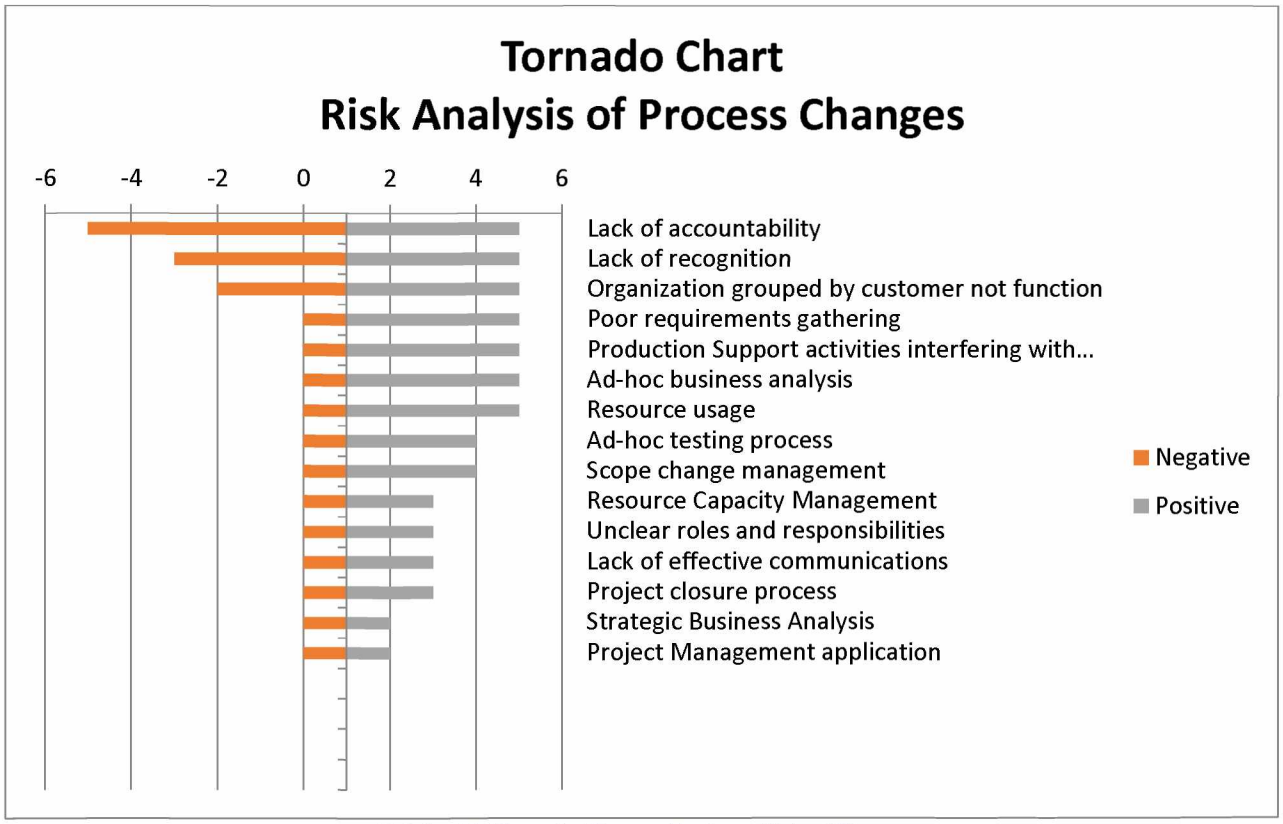

Exhibit 12- Tornado Chart to Evaluate Risk of Change

The impact analysis and the Tornado chart may be considered a more subjective evaluation in this instance, since it is possible that management's preferences are affecting their responses. However, it is also important to consider since, as stated before, customer buy-in is important, and recognizing their input does provide some insight into their concerns.

As a way to interpret this data, a matrix of Risk versus Impact was created. Taking management's feedback relating to impact on the POPIT ™ components and the risks assessment scores, a picture began to emerge for setting up a strategy. In Exhibit 13, the high impact/low risk group, designated as green quadrant below, brings management's perspective into view. Their next level to address would be the grey quadrant with low impact/ low risk. Between these two quadrants, the majority of the root causes are captured, with the exception of the top item on the Pareto analysis, Team structure.

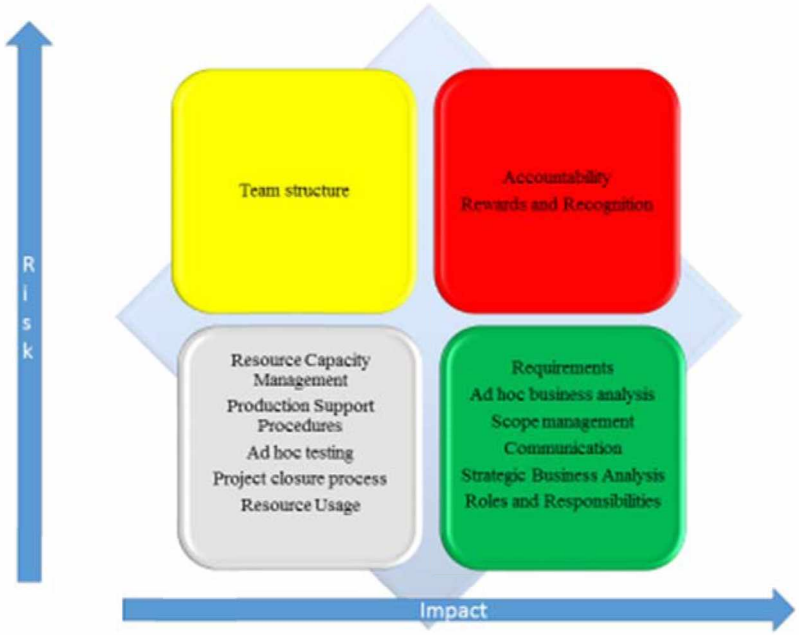

Exhibit 13- Matrix Analysis: Risk versus Impact

SWOT (strengths, weaknesses, opportunities and threats) analysis is a method for aligning the business needs and support process improvements. Feedback gathered during the interview was used to facilitate this analysis in Exhibit 14, auditing the strategic position of the department. The goal of the SWOT analysis is to attempt to use the strengths to convert the areas of weakness. The analysis will primarily look at how to use strengths to convert the weaknesses but will consider external forces at a high level.

The organization has the advantage of strong financial strength, with the resources and a competitive edge over its competition. In addition, the staff is highly educated with a wide range of talents and backgrounds in business and IT. Innovation has been encouraged, and all of these strengths provide an environment that is prime to support process improvements. However, on the other side of the balance is a group of staff members that are resistant to change. This is one of the primary risks in making changes to team structure and other processes. The interview process was designed to reach out to this group to identify their concerns and encourage discussion on needed changes. Team alignment was the area that met with the most resistance, with feedback that supported the current structure, including hesitancy to have functional team alignment rather than the current alignment with business units.

Current strengths include the alignment by business unit, with business unit satisfaction having increased by having a dedicated team of resources. Additionally, some of the resources that support the status quo are long-term employees with deep understanding of specific applications. Having them willing to cross-train others in their areas of expertise would be invaluable to the organization, while also widening their horizons and having the benefit of their business knowledge. Buy-in from this group for any changes made is extremely important.

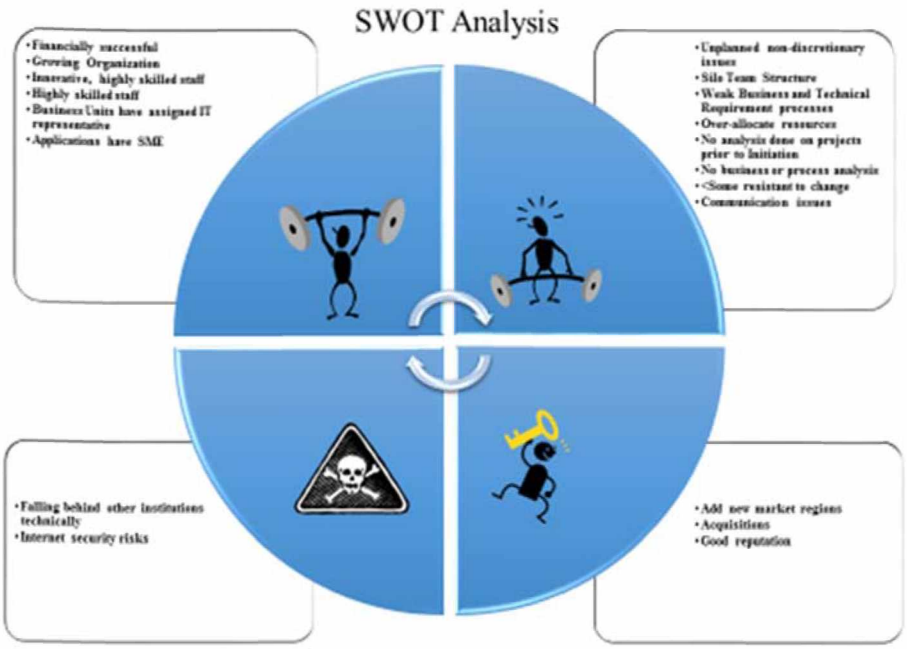

Exhibit 14- SWOT: Organizational Analysis

Best Practices

Books and articles were used to establish current recommended methodologies for business analysis. Roles and responsibilities, processes, and recommended organizational structures were researched.

Limitations and Future Research

This project was initiated to examine the relationship of business analysis and the resource hours spent on unplanned non-discretionary projects, and to identify areas within the business analysis process that could lead to reducing the time resources spend on unplanned non-discretionary projects. Some of the areas identified in the root cause analysis are outside of the control of the business analysis process. Initial recommendations will be based on the factors identified in the Pareto analysis, but other issues will be addressed as well, at least peripherally by some of the priority root causes. This is certainly the claim of the Pareto theory, and in examining the list of root causes there will be some improvements for lower level issues based on changes made to the major ones. For instance, having a detailed business analysis process will also address the expected roles and responsibilities of Business Analysts.

A portfolio management office (PMO) has been organized to address some of the issues identified in prior research and recommendations. This project will not address those changes but will address the concerns primarily from a business analysis perspective. There are times when there is overlap between the two, and opportunities to enhance this area via the use of business analysis enhancements will be addressed.

Lessons Learned

This research project was planned with the support of the organization's executive management and initial approval was received. However, the execution of the project was slowed down by delayed approval by the Institutional Review Board (IRB). As a result, communication between the researcher and the management team was put on hold pending approval of the research documents. This was a mistake. The management team and the researcher were not

on the same page with regard to the number of participants and other details directly affecting the research design. Fortunately, common ground was found when discussions were re-established, however, following a lengthy delay while waiting for the IRB approval another 10 days were lost, pending scheduling meetings with the management team and coming to agreement on the size of the contact list for participants and other details. Fortunately, even though the original plan was to contact all of the approximately forty team members, with an expectation of having an anticipated participant size of twenty, the acceptance rate of the smaller group was much higher than anticipated. Out of the fifteen participants contacted, thirteen were interviewed! In addition, the group met my goals for diversity. There were participants representing a majority of the teams and all positions within the department from programmers and business analysts through executive management. This story had a successful conclusion, but the delay of ten days to begin the interview process could have been avoided, had communication been kept open. Even though you think the sponsor understands and approves your approach, do not take anything for granted. Be specific and clear and get input from your host. Communicate clearly and often.

Conclusion

The IT team structure was created about ten years ago, to provide various business units within the organization with a technical team to be the 'go to' team for all of their technical needs. From a business standpoint, this has been a successful approach. Business units feel supported in their day-to-day issues, and have a representative to assist in getting their annual projects done. The down side is that the team members are limited in their exposure to the overall vision of the organization, are limited in the type of things they learn, and have little mobility since each team has different specialties based on their line of business.

The business analysis process is important to the success of an organization, and as the targeted organization has matured, business analysts' roles have expanded, often resulting in resources being assigned to key development (discretionary) projects while also required to deal with unplanned non-discretionary issues that come up on a daily basis. Some teams handle this more strategically by having key project resources dedicated to that project, reducing the risk of missing target dates or making errors due to distractions. However, in many instances resources are told that non-discretionary projects have priority, and that they must address these issues before resuming their discretionary project work. This can be devastating to those discretionary projects that are planned for the year.

Root cause analysis of participant responses and the Pareto Analysis diagram (Exhibit 10) support management's claim that the requirements gathering process and resources being in a silo-style team structure are high on the list of causes for the resource drain caused by unplanned non-discretionary issues and projects.

Additionally, the results of the study indicate that the business analysis workflow needs to be reviewed and additional processes added. Some improvements can be made to the annual process by doing high-level analysis on the proposed projects, providing strategic business analysis to senior management. Deliverables for this high-level analysis or needs assessment would include a Project Charter including project size and scope, return on investment (ROI) analysis or cost benefit analysis (CBA) feasibility study. Other additions and changes to the business analysis process are indicated as well, including such important areas as business and process modeling,

With these changes, there will also be changes to the structure of the roles and responsibilities of the business analysts. These possibilities need to be reviewed from several angles: What levels of business analysts are needed? What would roles and responsibilities be for each type?

Team structures also need to be considered when addressing these changes. Business analysis resources are located throughout the various teams, and typically only provide services to that team. As a result, there are times when some business analyst resources are over allocated while others are under or appropriately allocated. Sharing resources across teams, or having a specialized team to provide business analysis services should be considered.

Primary Areas of Concern

The data gathered from the interview process, once analyzed using Ishikawa cause and effect analysis, shown in Exhibit 8, identified fifteen root causes to be considered in making changes to the IT department, and identified by participants as contributing to the resource hours spent on unplanned non-discretionary resource hours. Several analysis techniques were employed to assist in determining the best strategy for addressing these issues, including a Pareto Chart, Impact Analysis, Tornado Chart and a SWOT diagram, using data obtained from interviewing a cross section of staff from the IT department and follow up discussions with a sub-group of the participants and executive management.

Prior to this research, management had voiced concerns over two of the fifteen key areas identified by Cause and Effect Analysis (Exhibit 8). These were weak requirements gathering process and the silo team structure. Both of these issues also rank high on the Pareto Chart (Exhibit 10) with the majority of participants reporting concerns relating to these factors. Business analysis as a process showed up under multiple areas in addition to concerns with processes for both business and technical requirements. Based on participant feedback, other areas of business analysis were identified in the root cause analysis: lack of a strategic business analysis prior to project planning and initiation, ad hoc business analysis processes, and scope management. In addition, other key concerns were the need for improved communication and lack of consistent procedures for day-to-day unplanned incidents.

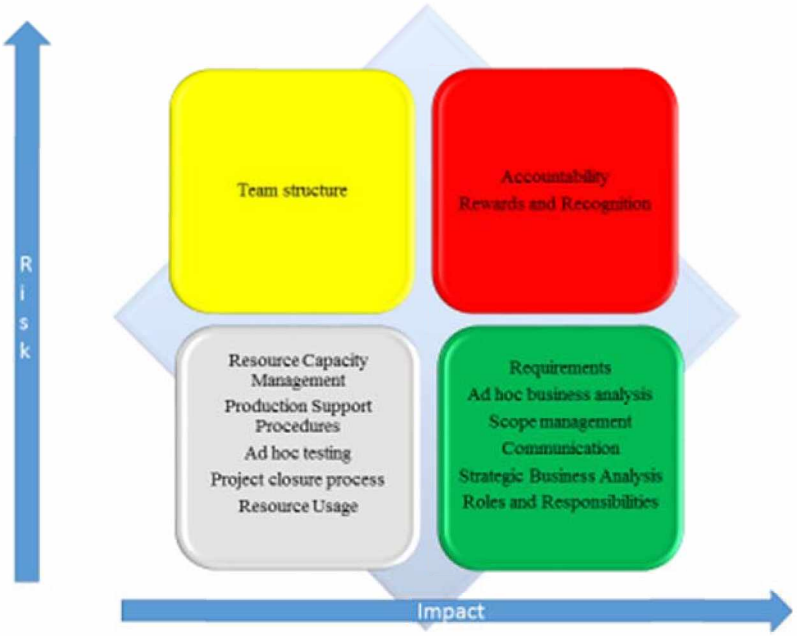

Exhibit 15- Summary of Risk vs Impact

Executive management responses to impact versus potential risk for addressing the identified root causes are demonstrated in Exhibit 15 revealing a majority of the same processes identified by the Pareto analysis. Some of the issues scoring high on the Pareto diagram such as resource capacity management and production support procedures may be higher impact than executive management expects, since the frequency with which participants reported them identified them as key issues on the Pareto diagram.

In addition to the issues mentioned above, there are also root causes that are low on the list with regard to Pareto analysis for this issue, but appear to have high impact on some of the POPIT ™ organization classes. These will be addressed as well in the recommendations for later consideration. In particular, rewards and recognition, which was assessed by executive management as having high risk for changes, will be examined for possible improvements that

could affect positive change. Even though changes in this areas may have a certain amount of risk associated with it, it is possible that there is even higher risks associated with not making changes.

Possible Remedies

Business analysis best processes will be used to recommend options for changes to all phases of the business analysis process, with focus on those areas identified above. Attention will also be given to those root causes identified using cause and effect analysis and identified as priority issues by the Pareto diagram (Exhibit 10).

Roles and responsibilities of business analysts will be examined as part of the examination of best practices in business analysis. Currently business analysts roles vary from team to team and the job description will need to be updated to match the recommended changes. In addition, resource allocation needs to be addressed, whether by having a functional team of business analysts that are available across all teams or by having a methodology that would identify resources by skill set or expertise, and provide the best resource for a given project regardless of their team assignment. This might be a good intermediate step, to begin cross training of the business analyst resources, and then eventually transitioning them to a "model office" type environment comprised of both business and business systems analyst as well as a specialized unit to guide defined testing processes across all applications. This type of team structure has been used effectively in other organizations to provide resources familiar with a wide range of products and business analysis skills more closely aligned with the business as a whole.

Improving the business analysis process and addressing the way resources are assigned will, based on data from the Pareto Diagram, address the major concerns revealed through this research process. In fact, some issues, such a lack of good communication will be addressed, at least in part, by having clear processes and expectations available to the teams.

Along with these recommendations, a need that is more implied than directly identified is a need for training for the business analysts. Just changing the processes and giving them clear roles and responsibilities must be accompanied by formal training if the changes are to be effective.

Recommendations

Initially when analyzing the data from the interview process, a good portion of the responses seemed to relate to the annual planning process:

- Projects selected to pursue are often not worth their cost (time or money)
- Management schedules projects with limited knowledge of project
- Priorities frequently change and affect in-progress projects
- Often underestimate size of projects, classify large projects as small and vice versa
- No feasibility study or modeling of innovative projects prior to approval
- Management selects projects to pursue without having high level analysis
- Project Priorities are set without understanding of project
- Business units often select solutions before analysis is performed

Then during the cause and effect analysis, a pattern began to emerge. Part of the interview process included asking participants how business analysis could assist in improving the overall process, increasing the amount of time resources spend on development. The list above are factors that cost teams time that could be used in execution of the project rather than spending valuable resource hours just trying to determine basic facts about the project, only to find that the project is not viable due to cost or other issues. What if there was a strategic business analysis team? This team would provide high-level analysis of key projects, including a return on investment or cost benefit analysis, define the project scope and high-level requirements, gap analysis and other project information that would be

presented in a Project Charter. The Project Charter would then be reviewed and signed off by the Project Sponsor and presented to the review board to assist in their planning process.

In addition, having a strategic business analysis or pre-project analysis will support better resource planning. Managers will have more detailed information on project size, scope and priority prior to doing their annual resource planning, permitting a more accurate planning process.

Strategic Business Analysis

Many organizations, including the organization in this study, have failed to bring business analysis processes into the business change lifecycle at the start, causing a lack of alignment with business needs. Omitting to insure proper alignment can result in the development or adoption of changes that fail to deliver benefits and result in wasted resources. (BCS The Chartered Institute for IT Edited by Debra Paul, 2010)

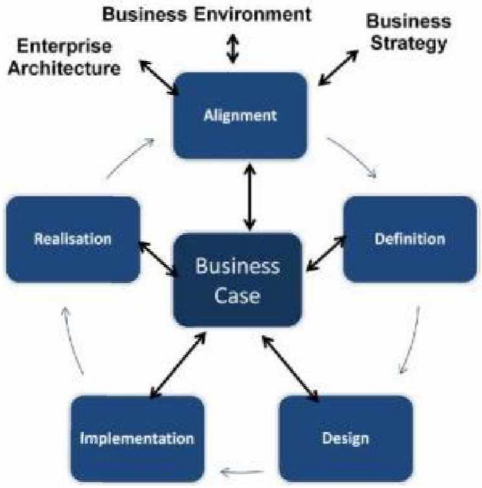

Exhibit 16- The Business Change Lifecycle

In business analysis, needs assessments are performed to examine the business environment and address either a current business problem or opportunity. A needs assessment may be formally requested by a business stakeholder, mandated by an internal methodology, or recommended by a business analyst prior to initiating a program or project. As used in the PMI practice guide, a project is a temporary endeavor undertaken to create a unique product, service, or result. A program is a group of related projects, subprograms, and program activities managed in a coordinated way to obtain benefits not available from managing them individually. (Project Management Institute, 2015)

Needs assessment work is performed before program or project work begins, and should occur in the alignment and definition steps within the business change lifecycle shown in Exhibit 16, therefore it is said to involve pre-project activities. However, during the course of a project, should external factors change (e.g. corporate merger, large percentage loss of market share, etc.), which influence or impact the project in process, the business analyst will need to revisit the assessment and decisions made earlier to ensure they are still relevant. (Project Management Institute, 2015)

A needs assessment should include a gap analysis to analyze and compare the performance of the organization against the desired or expected performance. The analysis done during the needs assessment will then be used to create a business case. The needs assessment and the business case are instrumental in defining the project objectives and are the foundation for creating the project charter. (Project Management Institute, 2015)

Once initial assessment of the project has been completed and a Project Charter approved, the Project Charter and all supporting documentation would be provided to the product owner and executive committee for review. Having this information available prior to authorizing the project will serve to reduce the number of resource hours currently spent on projects that should never have been approved, or having resources over-committed because the size of the project was underestimated.

Key to success of a pre-project strategic analysis is the strategic business analyst role. This role can provide an extended career path for existing business systems analysts, and provide higher-level analysis to the organization. This team should be separate from the current teams, and should form a foundation for developing a functional team consisting of all types of business analysts. This team will provide business analysis expertise to both IT and the business units.

Resource Capacity Planning

Resource capacity planning will be enhanced with the addition of business strategic analysis. Managers will have a better idea of project size and resource requirements prior to or early in the annual planning process, resulting in better decisions regarding the number of projects that can be done each quarter, and improved resource allocation.

Business Analysis

The organization currently has no systematic business analysis process, with each team defining their roles and responsibilities. As part of the changes to business analysis, including adding a role of strategic business analysis and clearly documenting other aspects of business analysis, including requirements processes, a business analysis model needs to be adopted, whether it be the model illustrated in Exhibit 16 or another model, it is strongly recommended that the following components be considered:

1. Consistent documented repeatable processes
2. Clearly defined roles and responsibilities
3. Updated project documents, including
    a. Project Charter
    b. RACI chart
    c. Business Requirements
    d. Technical Requirements
    e. Requirements Traceability matrix
4. A formalized documentation process and repository
5. Additional analysis methodologies including
    a. Business process workflow
    b. Process modeling
    c. Gap analysis
    d. Data mapping

Business Analyst roles can vary from organization to organization, and as mentioned earlier there are several varieties of business analysts. To clarify the various skills needed in the business analysis process, it would be beneficial to have an overview of the functions that a business analyst may provide. In addition, job descriptions should be reviewed and updated to recognize the different categories of business analysts that currently provide services within the department, including both business analysts and business systems analysts along with the new role of strategic business analyst.

With the new processes defined, and roles and responsibilities clearly defined, there must also be a formalized training plan for the business analysts. This will facilitate a clearer understanding of the new methodologies and promote a higher adoption rate for the changes.

Requirements Process

The requirements process needs to be reviewed and a formal consistent process must be implemented. Best practices for the requirements process recognizes various stages, and although it appears in Exhibit 6 to be a linear process, it is in fact a repetitive process that should continue until the key stakeholders and their subject matter experts (SMEs) are satisfied that the requirements will satisfy their needs, and the project is in scope and not gold plated. Documentation of these requirements will need to be addressed from both a business and technical perspective. Currently there is often a failure to provide detailed technical requirements and business systems analysts or programmers should be involved in this portion of the requirements process, insuring that the resource that creates the technical requirements is able to effectively communicate the technical requirements of the project.

Examining process within the discovery or requirements definition step, Ivy Hooks and Kristen Farry have expanded the requirements definition process into a nine-step process. ((Hooks & Farry, 2001)

1. Scope the product by defining needs, goals and objectives, mission or business case, high-level operational concepts, customer requirement, constraints, schedules, budgets, authority, and responsibility.
2. Develop operation concepts, expanding them to cover all phases of the product's life.
3. Identify interfaces between your product and the rest of the world, clarifying your product's boundaries, inputs and outputs.
4. Write requirements to guide product design toward what your customers need and want.
5. Capture the reason for the requirement's existence for each requirement and expose potentially dangerous assumptions and incorrect facts.
6. Level requirements according to system and sub-systems, ensuring that all requirements are written to the right level and can be traced back to their origins.
7. Assess verification of each requirement, identifying the verification technique and facilities and equipment required.
8. Format requirements and supporting documentation to ensure that you have included each of the appropriate types of requirements and that your development team members can find all of the requirements they must meet.
9. Baseline requirements after validating that they are correct, complete, and consistent, meet the project scope and do not add gold plating.

Having identified consistent procedures is only a portion of the weakness in the requirements process. Effective interview techniques and requirement's management will require training of resources. Tools such as a standard Requirements Traceability matrix will strengthen attention to requirements and provide additional support to the testing and requirements validation process.

In addition, the importance of clear written communication is imperative. Often terminology is different from one resource to another, so that an abbreviation used by one stakeholder may mean something totally different to another, or a field within one system may be called by a different name that that in the application it will communicate with. Data mapping, process and business process documentation will be important in ensuring that everyone on the team is on the same page.

Production Support

For the short term this organization will need to continue to have the same resources available for both non-discretionary and discretionary projects. The risk of having key initiatives put aside while handling day-to-day issues could be mitigated by having a rotating duty within the team. Some teams are able to protect those resources assigned to key initiatives from being interrupted with day-to-day issues. This would be preferable when there is sufficient staffing to support this approach. Long-term as the organization grows, management should consider having both a development team and a production support team.

Team Structure

Currently team structure is aligned so that business units have a direct link to a team within IT. This has been a strength from the perspective of the business units, providing them a dedicated team of resources. However, from an IT perspective, with some teams having a limited number of resources, and depending on the number of projects assigned to a business unit, there are times when some resources are over allocated, while others may have lighter project workloads. Resource capacity management is also affected by this team structure. Long term it would be advantageous to have a specialized unit of business analyst resources to provide project support. This team would act independent of the teams or their business units, and be available across all teams, with resources assigned based on their analysts expertise, and best fit for the project's needs.

Executive management identified changing team structure as risky as illustrated in Exhibit 12. If done suddenly and without proper preparation the team structure and effective preparation of the resources. This business analyst team should be implemented using a phased approach. Initially, strategic business analysts would have their own team, with business analysts and business systems analysts remaining in their business aligned team structure. In the beginning, cross training and resource sharing would be utilized across teams. Even this will need to be phased in over time, since resources have a limited knowledge of other business units and applications. Prior to initiating the shared resource approach, business analysts' specific skills should be identified, and formal training in business analysis, including requirements management, should be provided to all.

Recommendations for Later Research

The absence of a rewards and recognition within the teams, although not high on the list of concerns reported within the interviews, would benefit from some analysis. Team morale is an important component of all successful (and unsuccessful) teams. Management identified this as high risk and high impact, and in some cases, this may be the case. However, it is also possible that not addressing this issue is equally high risk and high impact. Some forms of rewards and recognition could be easily done, including team recognition by IT management for a job well done on a successful project. Another approach would be for management to recognize specific members of the team with "rewards for excellence", perhaps including a gift card to a nice restaurant, and presenting this award or awards in a group meeting, and sharing their success story with all. There may be a slight risk with this, but very slight. It is more likely that other resources will be incentivized to try to model themselves after the successful co-worker. Risk does come into play if there is no reason given when a team or an individual is rewarded, or if the awards are not announced or made public. Quality can come from modeling others, and with a highly visible approach to recognizing excellence, there will be role models to inspire others.

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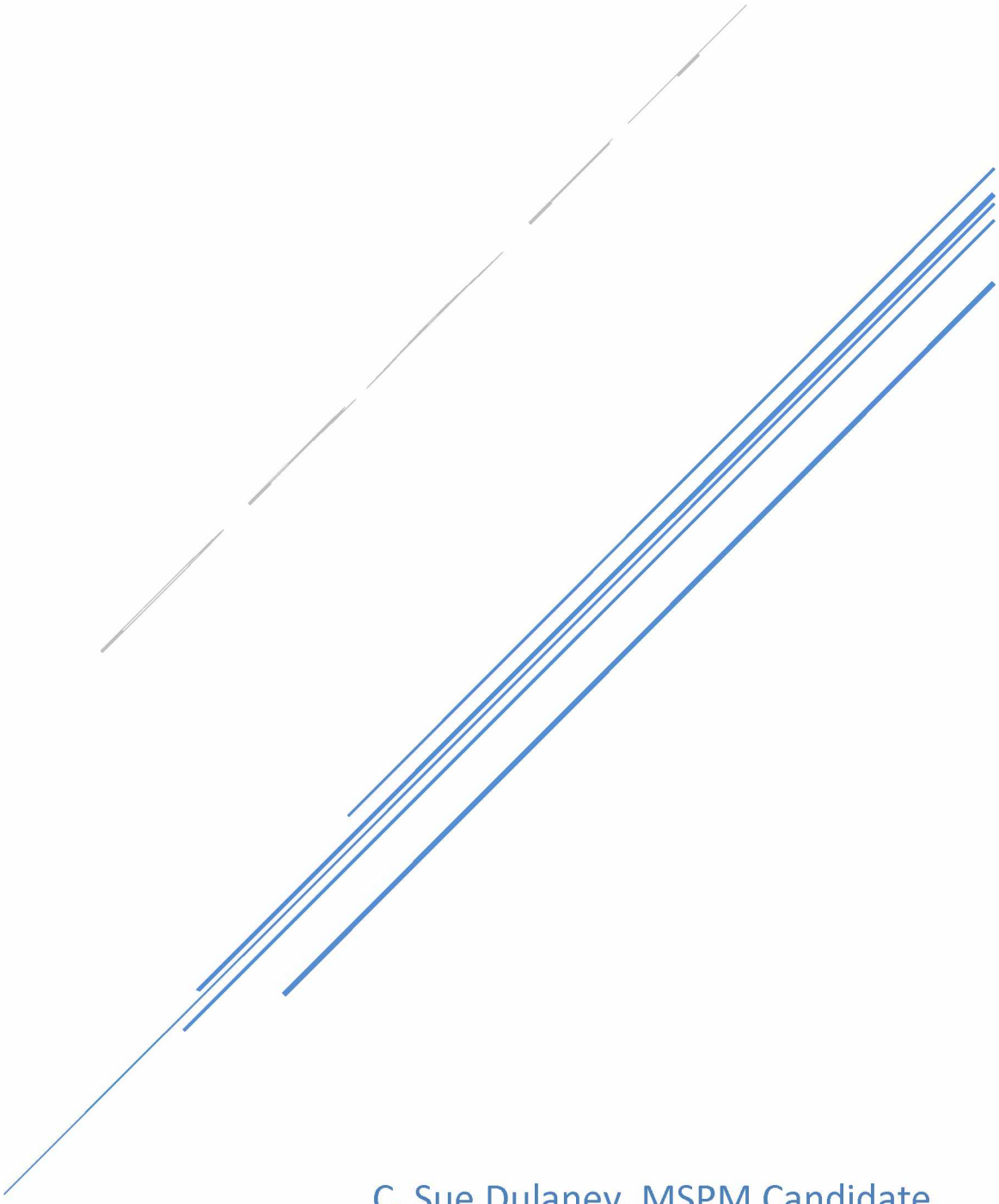
RESEARCH AND RECOMMEND

Reorganizing Business Analysis in an IT Environment



C. Sue Dulaney, MSPM Candidate
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Table of Contents

Executive Summary

Information Technology (IT) departments are under continuing pressure to produce a high volume of products quickly while maintaining quality and controlling cost. There are many factors that affect an organization's ability to meet all these expectations including skill level of resources, and business analysis.

This study was initiated because key annual projects often go uncompleted, and when executive management reviewed resource hours it was found that although resource hours are increasing with increased staffing, less and less of those hours are being used for the annual projects that are so important to improving services to the customers. In addition, examining the resource usage in Exhibit 1, the percentage of resource hours charged to development projects continues to decrease in comparison to total resource hours.

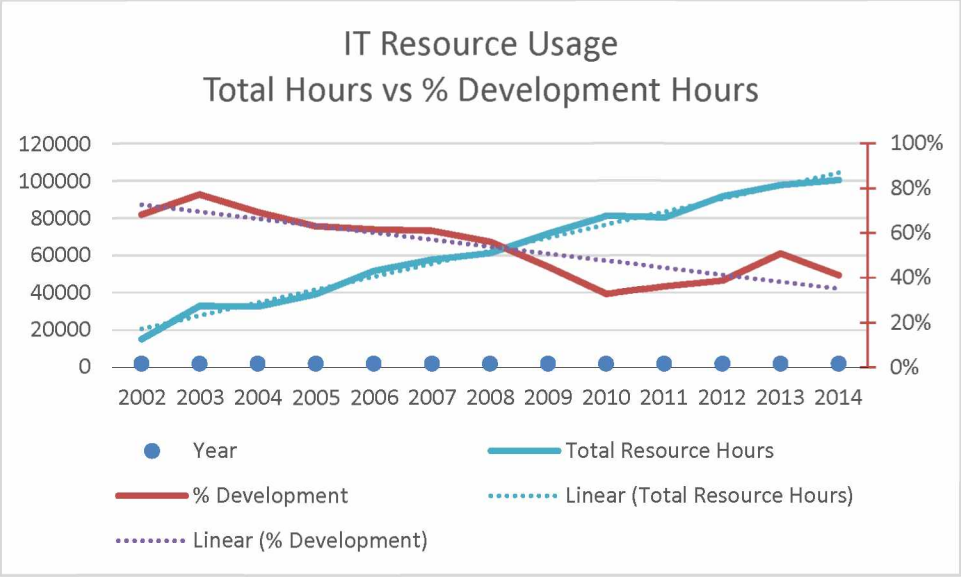


Exhibit 1- IT Resource Hours vs % Resource Hours for Development

In Exhibit 1, the total resource hours are comprised of planned maintenance (non-discretionary) and development (discretionary) projects as well as unplanned non-discretionary resource hours. Executive management determined that much of the non-discretionary project hours were a result of project re-works and investigation of quality issues, including programming bugs. Weak and inconsistent requirements processes were identified as a key contributor to this imbalance in resource usage.

This document will focus on business analysis, its role within the organization and, using research performed on-site; identify key areas of the process that could lead to increasing resource availability for discretionary projects.

Involving staff members in the study provides advantages when looking for areas to improve. Most significantly, there is a high level of knowledge and insight within the organization including staff having a wealth of knowledge in a wide range of skills and experiences. In addition, change within an organization is most successful when there is support from within.

Overview

The author is a candidate for a Master's of Science in Project Management (MSPM) from the University of Alaska – Anchorage, and performed research on the business analysis process within the Information Technology department of a local financial institution.

Interviews were conducted with a select group of IT staff members, ranging across multiple teams and included staff with varying responsibilities and backgrounds. A wide range of questions were asked and designed to identify strengths and weaknesses of the department, specifically searching for how changes in business analysis structure and processes could reduce the resource hours spent on unplanned non-discretionary activities.

Areas of concern were identified by performing a cause and effect analysis on the data, and grouping the data by potential root causes. A Pareto diagram was produced to rank the identified causes based on frequency of reporting by the study participants. While business analysis processes and team structure were the focus of this research, other reported concerns were noted and when appropriate included as areas for future research.

Business analysis is a rapidly growing field of expertise, having come to the forefront over the last twenty years. An important function of business analysis is to insure there is an alignment between business needs and the solutions provided by IT. As IT has developed, it has provided a mechanism for improvement in business operations. The focus has now changed, and focuses on new services and products. This analysis will examine opportunities for adding efficiencies and structure to this process within the business change lifecycle.

The business change lifecycle (BCS The Chartered Institute for IT Edited by Debra Paul, 2010) shown in Exhibit 2 is a concept that supports a strong business analysis process at the earliest phase in the process. This equates to the annual planning cycle within this organization, and supports evaluation of the proposed projects prior to project approval and prioritization. Currently, many of the projects are approved and classified without a thorough understanding of the project scope, size or return on investment with estimates done based on a limited amount of information.

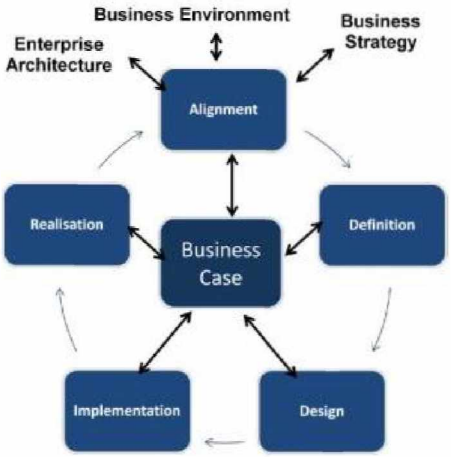


Exhibit 2 Business Change Lifecycle

Based on the Pareto Analysis it was apparent that an area that could enhance success of the product development process was strategic business analysis performed prior to the prioritization of discretionary projects. This is an area not formally addressed in the current process. Research has indicated that there would be value In having specialized Business Analysts provide high level analysis of potential discretionary projects to assist senior management in the annual planning process. This would support the portfolio selection process by providing additional knowledge regarding cost-benefit, size and scope of the proposed project, reducing the amount of time staff spends on projects only to find that the project is not viable due to factors discovered by the project team late in the planning phase or even during the execution phase.

With a clearer understanding of proposed projects, the executive team can make decisions that are fact based in the annual planning process and insure that there solutions are aligned with the business needs, supporting an increased success rate for the annual discretionary projects.

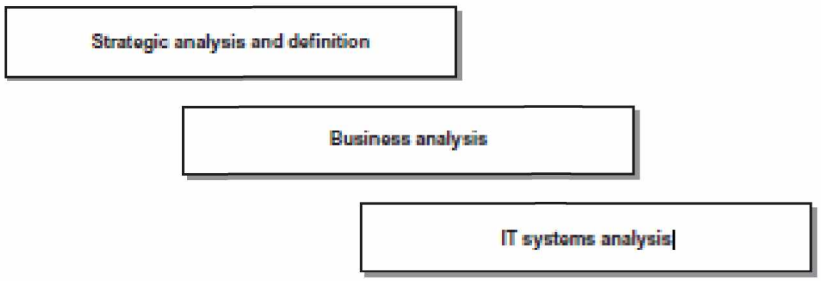


Exhibit 3 - Potential Roles of the Business Analyst

In addition to the strategic analysis and definition discussed above, both business analysis and IT system analysis, shown in Exhibit 3, are important aspects to insure a successful business analysis process. IT systems analysis is imperative, so that technical requirements are clear and concise with regard to both the application and the system design, taking the business requirements obtained in the business analysis process and creating a road map that is clear and concise for both application and system requirements.

Approach/Methodology

With teams within the IT department being aligned by customer rather than function, information from a cross section of resources across several teams was necessary to get an accurate overview of the current processes and challenges. A group of volunteer participants were Interviewed, using open ended interview questions designed to identify factors contributing to the high number of resource hours spent on non-discretionary projects, including project re-works and bug fixes.

Once the data was collected, responses were analyzed using cause-and-effect analysis, working back to possible root causes. Results of the analysis were presented to a subset of the participant group for

additional feedback. Similar responses were grouped together, their root cause identified and responses tallied.

1. Data was further refined by using a Pareto diagram to identify, based on Pareto theory, those areas that could provide the greatest positive change to the current process.
2. Volunteers from executive management evaluated the identified root causes and evaluated the results by impact to various areas of the organization (people, organization, process, information and technology) and risk.
3. Results of the analysis were then broken down by risk and impact to help identify key focus areas.
4. Best Practices were researched and potential solutions identified.
5. Recommendations were made based on the Pareto diagram in combination with ease of implementation, impact to the processes and potential risk to the organization.

During this process the International Institute of Business Analysis (IIBA), Project Management Institute (PMI) and the Chartered Institute for IT (BCS) were used as guides for recommendations.

Root Cause Identification

The following potential root causes were identified as areas of concern based on root cause analysis:

Root Cause	Short Name	Summary
lack of business and process analysis processes	ad hoc business analysis	need business modeling processes to enhance the business analysis process
ineffective method for balancing resource availability with project demand	resource capacity management	need improved skills in creating balance between available resources and project planning
inefficient use of business analyst resources	resource usage	resources often expected to cover too many projects at once, causing loss of focus and creating possibility for errors
lack of effective communication	weak communication skills	weak communication skills between team members, teams and stakeholders
lack of recognition for team or individuals	rewards and recognition	no formal high visibility recognition of team or individual success
lack of accountability	lack of accountability	ownership not clearly communicated and unclear person responsible to make decisions
no change management process for project change requests	scope change management	no scope management process defined. Scope changes not formally signed off by project sponsor or clearly documented
no consistent production support process	production support process	unplanned day-to-day issue management procedures are not clearly documented
no standardized project closure process	project closure process	implementation process is not consistent for stakeholder approval, training, documentations and migration to production
no standardized requirements process	requirements process	no documented standardized requirements gathering process
no standardized testing process	ad hoc testing	lack of uniform testing procedures or separation of duties; business analyst may write requirements and perform testing on the same project
no strategic business analysis	strategic business analysis	need process to perform high level project analysis (project charter, roi, feasibility) to assist management in business decisions
out of date project request system	pm application	current project request system does not have wide range of capabilities needed for department needs
teams aligned by customer and not by function	silo team structure	resources dedicated to specific business units/teams; restricts ability to learn new things, limits resource availability; restricts communication
unclear job requirements	roles & responsibilities	new job descriptions needed to better define roles and responsibilities of business analysts and match required business analysis skills

Exhibit 4- Root Cause Short Names and Description

Analysis of Current State

It is important to look at both the team structures and business analysis processes currently in place in the department. In saying this, it is also important to keep in mind that this is a generalized overview, because each team may have some variation in these standards.

Exhibit 5 demonstrates the business unit alignment with a group or team manager, who may have one or more business units assigned to that team. There may be one or more supervisors reporting to the group manager, with a staff of business systems analysts and programmers. The number of team members varies based on the resource requirements of that team.

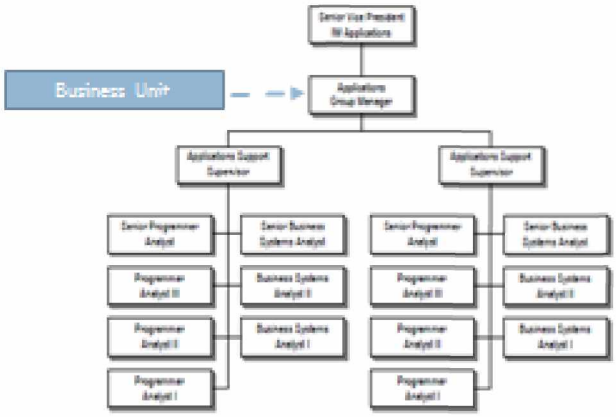


Exhibit 5 - IT Team Organizational Structure

Standardized templates and document requirements are made available to the teams in the IT department's Project Management's Procedures manual. Guidelines are established for whether the template is required or optional based on the size of the project.

During the interview process with the participants, some of the highest-ranking concerns reported by staff with regard to challenges in reducing the number of resource hours spent on non-discretionary projects were:

- Projects are assigned to teams during the annual project planning process prior to performing high-level business analysis to evaluate cost-benefit, return on investment, project size or project viability.
- Business requirements are often unclear or incomplete, and business analysis process does not have a consistent effective methodology to obtain accurate business or technical requirements resulting in project re-works or delays in implementation.
- The current team structure restricts knowledge sharing, cross training, communication and ability to effectively share resources across teams.

- Business analysis processes are ad hoc with no consistent use of business and process workflow analysis. There is no documented process and no training programs available for the analysts.
- Constant interruptions to attend to unplanned non-discretionary issues lead to increased errors and delayed completion of annual initiatives.
- There is little or no formal balancing between the supply and demand for project resources, and there is little if any coordination of resources across projects, which often results in resource conflicts.
- Not considering non-discretionary projects such as upgrades, compliance and strategic projects when performing the annual project, planning process often results in resources being over-allocated and the loss of resources for discretionary projects, since non-discretionary projects are higher priority.

Within this financial institution, the team manager and business unit typically manage the projects without considering other projects except to consider the conflict caused by shared resources. Projects are managed reactively as the manager, business unit or project manager identify issues or opportunities.

Using the comments above and other observations by participants a cause and effect analysis was performed to identify root causes and to prioritize those root causes that could provide the organization the greatest benefit if addressed, using Pareto theory and a Pareto diagram.

Pareto Analysis of Root Causes

There are different approaches that can be used to interpret the Pareto diagram; however, the basic process is the same. The identified root causes were first ranked by the number of times the related effects were noted during interviews and charted against the cumulative percent for all potential root causes as shown in Exhibit 6. The cumulative percentage was then used to facilitate a prioritization criterion.

The results of Exhibit 6 were examined from two different approaches: first, was to follow the 80% line to where it intersects with the Cumulative % line, drop a perpendicular line to the x-axis, and consider all root causes to the left of that line the top issues to address to maximize the benefit.

The second method would be to drop the perpendicular line at the point on the cumulative percentage line where the line begins to flatten. In Exhibit 6 below if we apply the latter approach two additional would be included for resolution, “roles and responsibilities”, and “weak communication”.

Roles and responsibilities came in in discussions from two perspectives, the need to clearly define the role of the Business Systems Analyst and to recognize the various types of business analysts, since some are technical and others are more familiar with business processes than I.T. Others felt that roles varied from team to team and made it difficult to change from one team to another. Weak communication was considered a side effect of the team structure with team members not always aware of what was going on at the organization level or even within other teams in the department. Each of these items will be considered when discussing team structure, and all root causes will be discussed at some level.

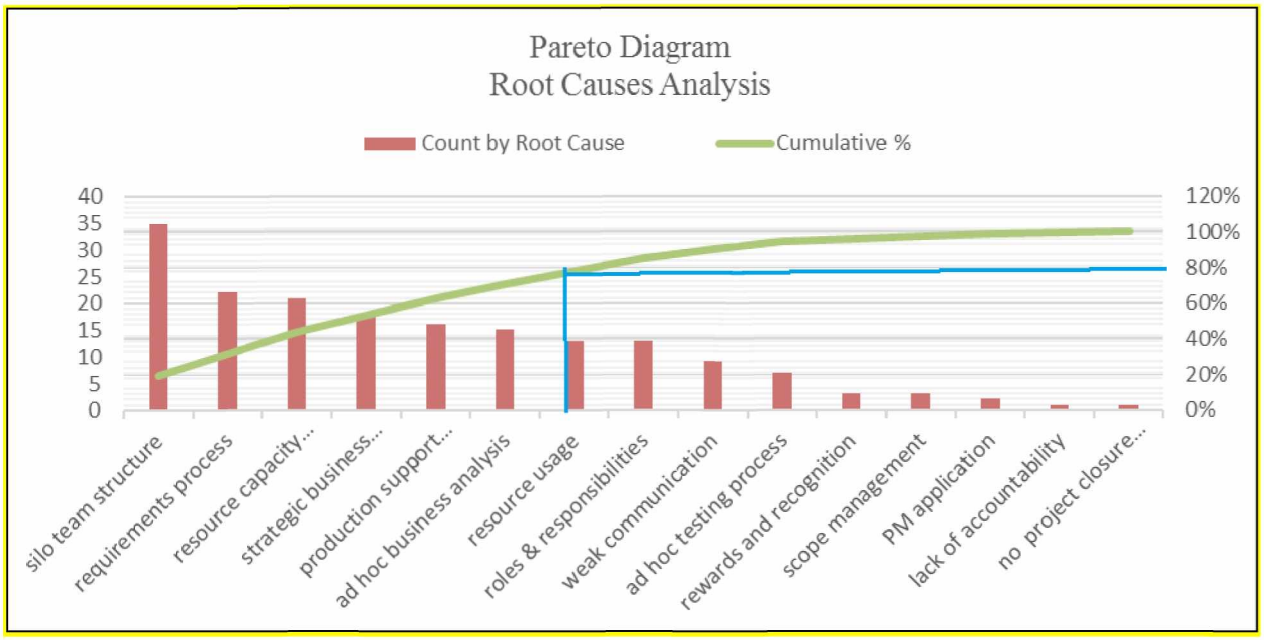


Exhibit 6 - Pareto Diagram

The areas that have been identified using the 80% line for cumulative percent on the Pareto diagram in Exhibit 6 are silo team structure, the requirements process, resource capacity management, strategic business analysis, the production support process, ad hoc business analysis, and resource usage. A brief overview of the each category of root causes is provided below with a summary of concerns identified during the interview process. Many of these are interconnected, and by addressing the top 20% of the issues, the Pareto Theory indicates that 80% of the problems causing a high incidence of unplanned non-discretionary issues will be mitigated.

Silo Team Structure

The arrangement of teams by business unit was discussed by participants as both a strength and a weakness. Strengths include the business unit having a team that represents them within I.T. This has benefit in the business unit has someone that they can go to for their needs. It has improved relationship between Operations and I.T., with a team type approach. This is not without cost though. Participant concerns were relating to team members not being aware of the "big picture" with regard to the organizational goals and objectives, were restricted in the ability to learn new things, since the team concept encourages specializing in the applications for the specific business unit. The current team structure also makes cross training and resource sharing difficult.

Requirements Process

A majority of the participants pointed to the need to improve the requirements process. At the time of the inception of the project, the business unit will enter a request. Often this is one or two lines, with a brief description of the project. In some cases, the business unit is not sure what they need or want, or in other cases have already identified a software product that they want even though no requirements have been documented. In addition, requirements gathering are done ad hoc, with no uniform process

in place, and no tools such as requirements traceability matrix used to track requirements from the start of the project through testing and implementation. Technical requirements are not always provided in a way that facilitates the programming process. Participants noted that skills are not in place to have business analyst drill down into the requirements, resulting in missing requirements and a need for a re-work of the project either during development or immediately after implementation.

Resource Capacity Management

Annual project planning for resources does not adequately address resource needs for non-discretionary projects that may or may not be known during the planning cycle. These projects, such as a system upgrades, compliance and infrastructure projects, are all too often not included in the resource planning for the upcoming year. Poor resource planning in relationship to the number of projects promised to business units in a given product year that has been a reoccurring theme, as well. In addition the size and duration of a project and resource needs for that project are often a high-level estimate, resulting in poor estimation of resource needs.

Strategic Business Analysis

Strategic Business Analysis is an underlying issue in many of the comments received by participants, including resource capacity management, the requirements process, and most of the issues reaching back to the annual planning process. Currently there is very little if any strategic business analysis done. As a result, annual planning and project work that comes in during the year is approved without having a good understanding of whether the project is any feasible. In recent large projects, some teams are utilizing a Research and Recommend project prior to opening an Implementation project. However, even with this approach, vital team resources are used to analyze the project. Strategic business analysis would be done prior as a pre-project analysis and would be performed to facilitate the organization's annual planning process when applicable.

Production Support Processes

Production support within I.T. is a critical process and requires immediate and effective response. In the case of day-to-day issues that arise, staff that are assigned to key discretionary projects may have to 'drop everything', switch gears and address these high priority issues. Staff had a mixed experience with how their team managed these incidents, and there was no consistent approach to who addressed these. Some team members reported that they never had to address production issues, while others reported being distracted from their tasks due to the day-to-day issue management. A large percent of the respondents felt that there should be a separate, dedicated team managing production issues, to increase response time and decrease the number of bugs that might happen due to being distracted.

Ad hoc Business Analysis

Participants typically called out the requirements process separately from business analysis during the interviews. In depth business analysis using process analysis, business workflow analysis, data mapping, return on investment or cost benefit analysis along with other analytical processes are not used on a

regular basis. Also, although there is a set of templates and document requirements provided to the teams, there is no consistent business analysis processes identified.

Resource Usage

Business analysts are often used for a wide spread of duties within the teams. They carry out all duties other than programming within the team. As such, their days are often split between working with a business unit to resolve production issues, preparing project documents, gathering project requirements both business and technical, managing projects, managing vendor relationships, and performing functionality testing. Because of the diversity of their duties, if there are limited business analyst resources on a team, they may not have time to provide the quality of services needed. This can also contribute to not having deep enough research into requirements, resulting in missing requirements, or since some analysts not only write the requirements for a project and then do preliminary testing on that same project, they may not catch issues with the functionality prior to turning it over to the business units for User Acceptance Testing (UAT).

Roles and Responsibilities

Currently roles are not the same from one team to another for business analysis. Additionally, the job description for business analysts does not set clear expectations for responsibilities on current duties. Although the job title is Business Systems Analyst, not all of the analysts have IT backgrounds, and not all business systems analyst can effectively define technical requirements. There should be a separate classification for business analysts versus technical business systems analysts with the business systems analyst performing the technical analysis.

Weak Communication Skills

Technical resources have difficulty clearly communicating with non-technical staff. When working with business units miscommunication can occur when acronyms and data field names are used. Some terminology including acronyms can mean different things to the business unit and the technical resources.

Ad hoc Testing Processes

There is not clearly defined process or requirements for performing various phases within the testing cycle. Testing standards and procedures need to be clearly defined with documentation of the testing processes and results standardized to insure that the risk of bugs or need to back out a change post implementation is mitigated.

Rewards and Recognition

Having a recognition program within IT to provide acknowledgement for a job well done is needed to incentivize resources. Currently the teams are not always aware of what other team members are working on or what they do. A periodic meeting to announce recent wins and/or an annual bonus

program with resources recognized in a department ceremony would provide positive examples to others.

Scope Management

Scope changes are made on projects and the business unit is often not advised regarding the impact the change would have on timelines or costs. No defined change management process is defined for new requirements initiated after the initial requirements are approved.

Project Management Application

The current Project Management system is out of date. It permits users to open new projects without providing a good project definition. The organization has outgrown the current application, and needs an application that facilitate better project analysis.

Lack of Accountability

Due to lack of clearly defined leadership roles, it is difficult to identify the person responsible for the outcome of a project.

No Formal Project Closeout

There is no formal process in place for the handover of a project to the business unit. In addition, even if a Post-Mortem is done, and Lessons Learned generated, there is no lessons learned repository and rarely referred to in future projects.

POPIT ™ Impact Analysis

What is POPIT ™? It is the segments of the business analysis process, people, organization, process, information, and technology. To determine what impact might be realized with improvements to each of the identified root causes, executive management reviewed each and ranked potential impact from 0 to 5 with 0 being no impact and 5 being high impact. Once the scores were tallied, an average across all aspects was done, and an average of three (3) or above provided a second approach to order of priority. This approach would indicate that priority would shift somewhat. The requirements process, strategic business analysis, ad hoc business analysis would remain high priority, and roles and responsibilities, lack of effective communication, scope management and an updated PM application would become higher priority.

The following components were examined with the POPIT ™ methodology and defined as listed below to executive management for them to consider when evaluating impact:

- People - Roles, job description, skills, competence, management activities, culture and communication
- Organization - business model, external environment, capabilities and business memory
- Processes - Value proposition, value chain and core business processes

- Information - information requirements and standards
- Technology - technical and application architecture

The sample size for staff interviews was smaller than planned and did not include all teams, so there is some risk that the Pareto analysis and root causes analysis are not representative of the entire department. However, the majority of the participants of the study are closer to the process, and that, the scoring for the Pareto diagram was based on the frequency issues were identified in the same areas the data appears to be creditable. Once the data was tabulated, a sub-group of the participants reviewed the data set and root causes and provided feedback.

Root Cause/POPIT	People	Organization (IT)	Process	Information	Technology	Average
weak communication skills	3	3	5	5	3	3.80
PM application	3	4	5	4	3	3.80
strategic business analysis	3	2	5	4	4	3.60
ad hoc business analysis	4	0	5	4	4	3.40
roles & responsibilities	5	5	2	4	0	3.20
requirements process	2	0	4	5	4	3.00
scope management	0	2	5	4	4	3.00
ad hoc testing process	2	3	4	3	0	2.40
lack of accountability	5	3	4	0	0	2.40
silo team structure	5	4	2	0	0	2.20
resource capacity management	5	4	2	0	0	2.20
production support process	2	2	3	3	0	2.00
rewards and recognition	3	0	3	2	1	1.80
no project closure process	3	2	4	0	0	1.80
resource usage	3	0	0	0	0	0.60
Total by POPIT class	48	34	53	38	23	

Exhibit 7- Impact of Root Causes on POPIT (tm) Categories

Organizational Risk Analysis

Also important, as with any changes, is what risk is attached to making these changes. Again, management provided an evaluation. Below is an evaluation of potential positive and negative impact on making changes to the various root causes. The Tornado Chart is used to make strategic decisions. A Tornado diagram was created to assess the relative sensitivity of the root causes when plotted against their effect on the 'midpoint' or current % of resource hours spent on unplanned non-discretionary In addition, executive management is risk adverse so that risk of negative response to changes were also evaluated. Change was measured on a ranking from -5 to +5 with -5 being high negative impact and +5 being high positive impact and being adverse to risk, mid-point was set at +1. To evaluate how changes to each root cause will minimize risk of negative impact the risk scores are graphed as in Exhibit 8. Evaluate the results by examining what changes will have least unacceptable risk and deliver highest acceptable risk.

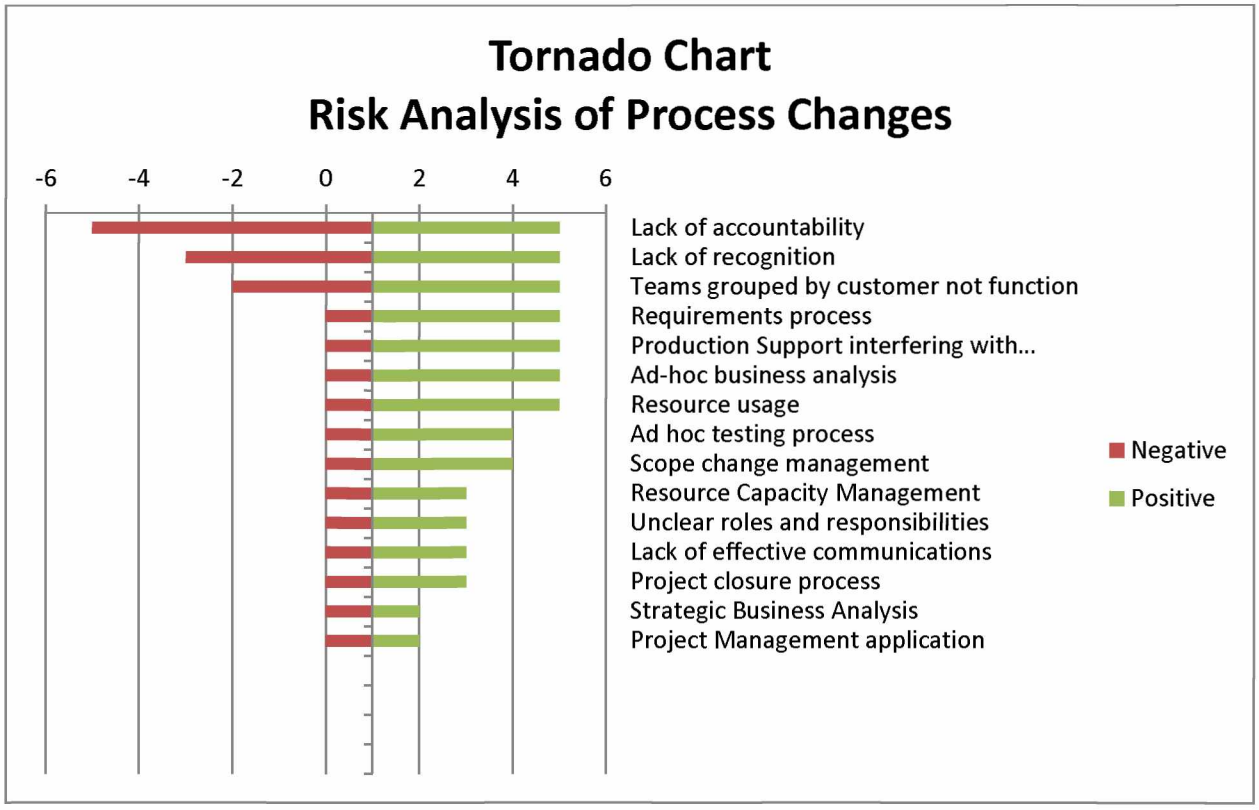


Exhibit 8 - Risk Analysis of Process Changes

Keeping in mind that this is a high level overview of the risk of process change, and is not based on any specific change, the goal is to identify those areas where the greatest positive gain (green line) can be obtained with the least risk (red line). Based on the strategic analysis in this instance, addressing the following processes would be top choices with the least risk: requirements, production support, business analysis, and resource usage.

Summary

By using cause and effect analysis and the 5-Why technique on the responses obtained from participant interviews, fifteen root causes for the decrease in resource hours spent on discretionary projects. The frequency with which these issues had associated comments from the participants was then used to create a Pareto diagram based on frequency of reporting. In addition, additional feedback was obtained from management to evaluate possible benefit (impact) of addressing these various root causes and the risk of doing so. The results of the analysis on impact and risk were ranked using a Risk vs Impact grid in Exhibit 9.

Utilizing the data from the Tornado chart and the POPIT ™ Impact analysis, it appears that the majority of issues identified in the Pareto diagram would be low risk with the exception of Team Structure. The change in team structure appears to be low impact and medium risk based on the high-level analysis.

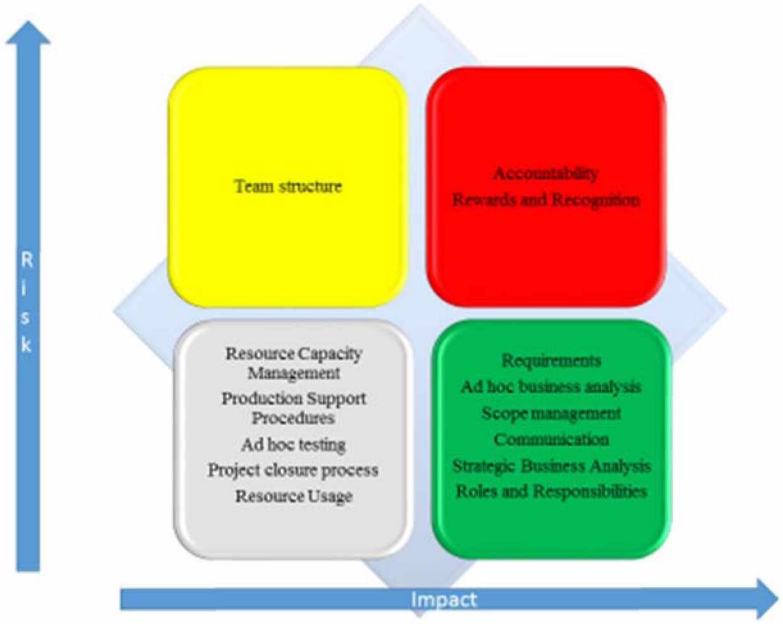


Exhibit 9 - Process Change Risk vs Impact Grid

Those high impact/low risk processes that are identified in Exhibit 9 above all relate either directly or peripherally to business analysis. This further supports the concern of management that requirement processes are a key driver in the increase in non-discretionary projects. However, results also indicate that it is a widespread issue within the entire business analysis process. Best practices will be used to identify updates to that entire process, and will consider possible changes to the team structure that would provide positive change while insuring a lower risk. Recommendations will be made with Pareto chart used to identify the top priorities, while attempting to identify some quick wins and mitigating risks on those areas.

Possible Solutions

Based on the research performed, the majority of the root causes identified for the imbalance in resource and development hours are related to business analysis processes within the IT department. Currently there is a loosely defined business analysis process in place with each team having some flexibility on how they approach the process. Reviewing the results of the interviews and taking into account the Pareto diagram and the high level assessment of impact and risk, the overall business analysis process with the exception of team structure are low risk. Below is an overview of some of the possible approaches, based on the research of best practices in business analysis.

Strategic Business Analysis

Many organizations have failed to bring business analysis processes into the business change lifecycle (Exhibit 10) at the start, risking a lack of alignment with business needs. Failing to ensure proper alignment with the business needs can result in the development or adoption of changes that fall short in delivering business benefits and result in wasted assets. (BCS The Chartered Institute for IT Edited by Debra Paul, 2010)

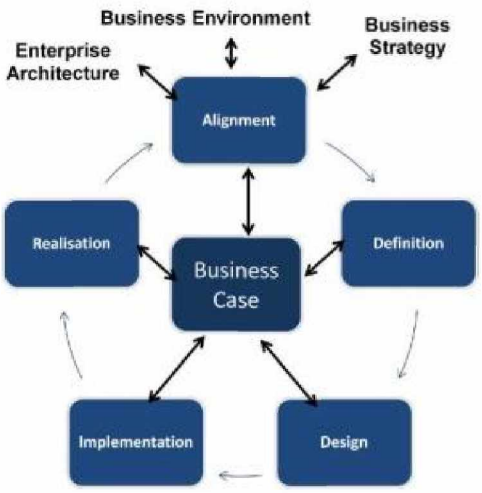


Exhibit 10- The Business Change Lifecycle

In business analysis, needs assessments should be performed to examine the business environment and address either a current business problem or opportunity. A needs assessment may be formally requested by a business stakeholder, mandated by an internal methodology, or recommended by a business analyst prior to initiating a program or project. As used in the PMI practice guide, a project is a temporary endeavor undertaken to create a unique product, service, or result. A program is a group of related projects, subprograms, and program activities managed in a coordinated way to obtain benefits not available from managing them individually. (Project Management Institute, 2015)

Needs assessment work should be undertaken before program or project work begins, and should occur in the alignment and definition steps within the business change lifecycle, therefore it is said to involve pre-project activities. However, during the course of a project, should external factors change (e.g. corporate merger, large percentage loss of market share, etc.), which influence or impact the project in process, the strategic business analyst will need to revisit the assessment and decisions made earlier to ensure they are still relevant. (Project Management Institute, 2015)

A needs assessment should include a gap analysis to analyze and compare the performance of the organization against the desired or expected performance. The analysis done during the needs assessment will then be used to create a business case. The needs assessment and the business case are instrumental in defining the project objectives and are the foundation for creating the project charter. (Project Management Institute, 2015)

Once initial assessment of the project has been completed and a Project Charter approved, the Project Charter and all supporting documentation would be provided to the product owner and executive committee for review. Having this information available prior to authorizing the project will serve to reduce the number of resource hours currently spent on projects that would not have been approved, or having resources over-committed because the size of the project was underestimated.

Resource Capacity Management

Many of the issues that currently exist with resource planning are outside of the realm of business analysis, however, they do affect the quality of the discretionary product development process, with resources over-allocated or pulled from projects to work on unplanned non-discretionary issues that arise.

Creating a Strategic Business Analysis role will improve the ability to define resource needs by having more realistic assessment of project size and scope. Production support processes and roles should also be examined to ensure resources assigned to key discretionary projects are not distracted by frequent interruptions. Some teams have resolved this by having rotation of designated resources for non-discretionary projects.

Ad hoc Business Analysis

A business analysis process model should be adopted and all templates reviewed and updated to comply with best practices for the business analysis process.

Exhibit 11 - Extended Business Analysis Process Model

The business analysis process model can take many forms, but the following is the basic structure recommended for effective business analysis:

- Investigate the situation – OSCAR : Objectives, Scope, Constraints, Authority and Resources
- Consider perspectives – Analyze the stakeholders and their perspective on the business situation
- Analyze needs – Perform a gap analysis, identifying where improvements can be made to the business system, documenting the business activity model and the business process model
- Evaluate the options – Identify potential improvement identified and develop options. Evaluate them for feasibility and determine if they are acceptable with the business unit
- Define the requirements – Gathering and documenting detailed requirements for the changes to the business system. Rigorous requirements documentation should be given as much attention as the process of gathering them. A requirements depository should be maintained for each system and not by project number, to permit readily retrievable information regarding prior updates.
- Deliver the changes – in the extended business model the business analyst will then work to deliver the requested changes to the business unit (stakeholder)

Requirements Process

The requirements process needs to be reviewed and a formal consistent process needs to be implemented. Best practices on requirements recognizes various stages within the process, and although it appears in most descriptions to be a linear process, it is in fact a repetitive process that should continue until the key stakeholders and their subject matter experts (SMEs) are satisfied that the requirements will satisfy their needs, and the project is in scope and not gold plated. Documentation of these requirements will need to be addressed from both a business and technical perspective. Currently

there is often a failure to provide detailed technical requirements and business systems analysts or programmers should be involved in this portion of the requirements process.

Examining process within the discovery or requirements definition step, Ivy Hooks and Kristen Farry have expanded the requirements definition process into a nine-step process. (Hooks & Farry, 2001)

1. Scope the product by defining needs, goals and objectives, mission or business case, high-level operational concepts, customer requirement, constraints, schedules, budgets, authority, and responsibility.
2. Develop operation concepts, expanding them to cover all phases of the product's life.
3. Identify interfaces between your product and the rest of the world, clarifying your product's boundaries, inputs and outputs.
4. Write requirements to guide product design toward what your customers need and want.
5. Capture the reason for the requirement's existence for each requirement and expose potentially dangerous assumptions and incorrect facts.
6. Level requirements according to system and sub-systems, ensuring that all requirements are written to the right level and can be traced back to their origins.
7. Assess verification of each requirement, identifying the verification technique and facilities and equipment required.
8. Format requirements and supporting documentation to ensure that you have included each of the appropriate types of requirements and that your development team members can find all of the requirements they must meet.
9. Baseline requirements after validating that they are correct, complete, and consistent, meet the project scope and do not add gold plating.

Having identified consistent procedures is only a portion of the weakness in the requirements process. Effective requirement's management is a skill that will require training of resources. Tools such as a Requirements Traceability matrix will strengthen attention to requirements and provide additional support to the testing and requirements validation process.

In addition, the importance of clear written communication is imperative. Often terminology is different from one resource to another, so that an abbreviation used by the IT resources may mean something totally different to the business unit, or a field within one system may be called by a different name that that in the application it will communicate with. Data mapping, process and business process documentation will be important in ensuring that everyone on the team is on the same page.

Scope Management

Scope management is an important aspect of requirements management and business analysis, and will be addressed within both of these areas, but deserves to be addressed separately as well. Once initial scope and requirements are completed and approved by the Project Sponsor, a formal process needs to be in place to address and document changes in scope. Many times business units are not fully clear on what they need and as a result, as they get further into the process, the scope may change. With improved business analysis processes, it is anticipated that this will occur less often. Requests for changes to scope should be provided to the business analyst and team manager so that the impact to the project can be analyzed, whether that be an effect on schedule or cost. A defined change management process would then be initiated if the change were to be requested.

Team Structure

Currently team structure is aligned so that business units have a direct link to a team within IT. Having alignment by business unit has been a strength from the perspective of the business units. It provides them with a team that directly provides most of their deliverables. However, from an IT perspective, with some teams having a limited number of resources, and depending on the number of projects assigned to a business unit, there are times when some resources are over allocated, while others may have lighter project workloads. Resource capacity management is also affected by this team structure. Long term it would be advantageous to have a specialized unit of business analyst resources to provide project support. This team would act independent of the business units, and be available across all units, with resources assigned based on their expertise (business analysis, strategic business analysis, business systems analyst, quality assurance, etc.), and best fit for the project's needs.

There is inherent risk in moving the business analysts out of the current structure, and would require the business analyst resources be aligned by function rather than by business unit.

To reduce risks, this business analyst team could be implemented in a phased approach. Initially, business analysts would remain in their business aligned team structure, with resources being available across teams. Even this will need to be phased in over time, since resources have a limited knowledge of other business units and applications. Prior to initiating the shared resource approach, business analysts' specific skills should be identified, and formal training in business analysis should be provided to all, along with being provided a consistent business analysis methodology.

As an initial step toward creating a separate business analysis unit, a team supporting the organization in its project planning process could be created to provide strategic business analysis services to the business units and executive review board (ERB).

Roles and Responsibilities

Roles can vary from organization to organization, and as mentioned earlier there are several varieties of business analysts. To clarify the various skills needed in the business analysis process, it would be beneficial to have an overview of the functions that a business analyst may provide. Key to success is the strategic business analyst discussed as part of the pre-project analysis. This role can provide an extended career path for existing business systems analysts, and permit them to grow and provide higher-level analysis to the organization. In addition, job descriptions should be reviewed and updated to recognize the different categories of business analysts that currently provide services within the department (business analysts and business systems analyst).

The core business analyst role should be defined as an advisory role, which has the responsibility for investigating and analyzing business situations, identifying and evaluating options for improving business systems, elaborating and defining requirements, and ensuring the effective implementation and use of information systems in line with the needs of the business. (BCS The Chartered Institute for IT Edited by Debra Paul, 2010)

Business Analysts roles within the organization should also include the following areas:

- Strategy Implementation – working with senior management to help define the most effective system to implement the business strategy
- Business case development – senior business analysts should be used to develop business cases including cost-benefit or return on investment analysis particularly for larger, more complicated projects
- Benefits Realization – an important part of all development efforts is the post-implementation review to ensure that the product delivered the expected benefits. If not, business analysts can also be used to determine what needs to be done to achieve those benefits.
- Specification of IT requirements – The business systems analyst typically use standard modeling techniques like data modeling or use case modeling.

Recommendation

Initially when analyzing the responses to interview responses, a good portion of the responses seemed to relate to the annual planning process:

- Projects selected to pursue are often not worth their cost (time or money)
- Management schedules projects with limited knowledge of project
- Priorities frequently change and affect in-progress projects
- Often underestimate size of projects, classify large projects as small and vice versa
- No feasibility study or modeling of innovative projects prior to approval
- Management selects projects to pursue without having high level analysis
- Project Priorities are set without understanding of project

Then during the cause and effect analysis, a pattern began to emerge. Part of the interview process included asking participants how business analysis could assist in improving the overall process, increasing the amount of time resources spend on development. The list above are factors that cost teams time that could be used in execution of the project rather than spending valuable resource hours just trying to determine basic facts about the project, only to find that the project is not viable due to cost or other issues. What if there was a strategic business analysis team? This high-level analysis would include a return on investment or cost benefit analysis, define the project scope and high level requirements, and other project information that would be presented in a Project Charter. The Project Charter would then be reviewed and signed off by the Project Sponsor and presented to the review board to assist in their planning process.

Creating a Strategic Business Analysis role will improve the ability to define resource needs by having more realistic assessment of project size and scope. Production support processes and roles should also be examined to ensure resources assigned to key discretionary projects are not distracted by frequent interruptions. Some teams have resolved this by having rotation of designated resources for non-discretionary projects.

Based on the Pareto diagram, along with the addition of a strategic business analysis team, other areas that would benefit the organization, and decrease the disparity between hours spent on non-discretionary versus discretionary (development) projects are to define a business analysis and requirements process. The business analysis process has many potential models, but the important things to consider are:

- Consistent documented processes
- Updated project management templates
-
- Additional analysis methods
    - Business workflow
    - Process modeling
    - Return on Investment

Updating of the requirements processes will require not only a documented and consistent process, but also training of the staff in effective requirements gathering and documentation. Many tools are available to assist in this process, but the requirements traceability matrix (see sample) is necessary. It will not only clarify the requirements of a project, but also provide a mechanism to ensure that the requirements are met all the way through testing and implementation.

Recommendations for Later Research

The absence of a rewards and recognition within the teams, although not high on the list of concerns reported within the interviews, would benefit from some analysis. Team morale is an important component of all successful (and unsuccessful) teams. Management identified this as high risk and high impact, and in some cases, this may be the case. However, it is also possible that not addressing this issue is equally high risk and high impact. Some forms of rewards and recognition could be easily done, including team recognition by IT management for a job well done on a successful project. Another approach would be for management to recognize specific members of the team with "rewards for excellence", perhaps including a gift card to a nice restaurant, and presenting this award or awards in a group meeting, and sharing their success story with all. There may be a slight risk with this, but very slight. It is more likely that other resources will be incentivized to try to model themselves after the successful co-worker. Risk does come into play if there is no reason given when a team or an individual is rewarded, or if the awards are not announced or made public. Quality can come from modeling others, and with a highly visible approach to recognizing excellence, there will be role models to inspire others.

References

BCS The Chartered Institute for IT Edited by Debra Paul, D. Y. (2010). *Business Analysis.* Swindon, United Kingdom: British Informatics Society Limited.

Hooks, I. F., & Farry, K. A. (2001). *Customer-Centered Products: Creating Successful Products through Smart Requirements Management.* New York: AMACOM.

Project Management Institute. (2015). *Business Analysis for Practioners: A Practice Guide.* Newtown Square: Project Management Institute, Inc.

Interview Questions:

Reorganizing Business Analysis in an IT Environment

Participant Information

Title		Level	
Interviewer			
Date			

---

1. When you start your day, do you have a 'things to do' list for that day?

---

2. How much of the planned tasks are you able to complete

---

3. What is the percent of time that you are 'assigned' to development projects?

---

4. What do you think are the primary drivers for the high number of resource hours spent on unplanned production issues?

5. What do you think causes low morale, and lack of motivation of some of your team members?

6. Looking at your old and new team, what do you think explains the difference in availability for doing your 'planned' work?

7. How would you describe the responsibilities of a Business Analyst?

8. How many of the product re-works are because of missing requirements?

9. What types of interruptions do you have during the day, if any, please describe.

10. Do you feel that teams' goals for annual operating plan projects is realistic?

11. How is your completion rate now versus old team?

12. Do you or your team perform feasibility studies on the business units' project requests?

13. What is the prioritization for Operating Plan projects?

14. How can business analysts help address the challenges of high production issues, and help to free up resources for development?

15. What type of team structure would you think would increase availability of resources?

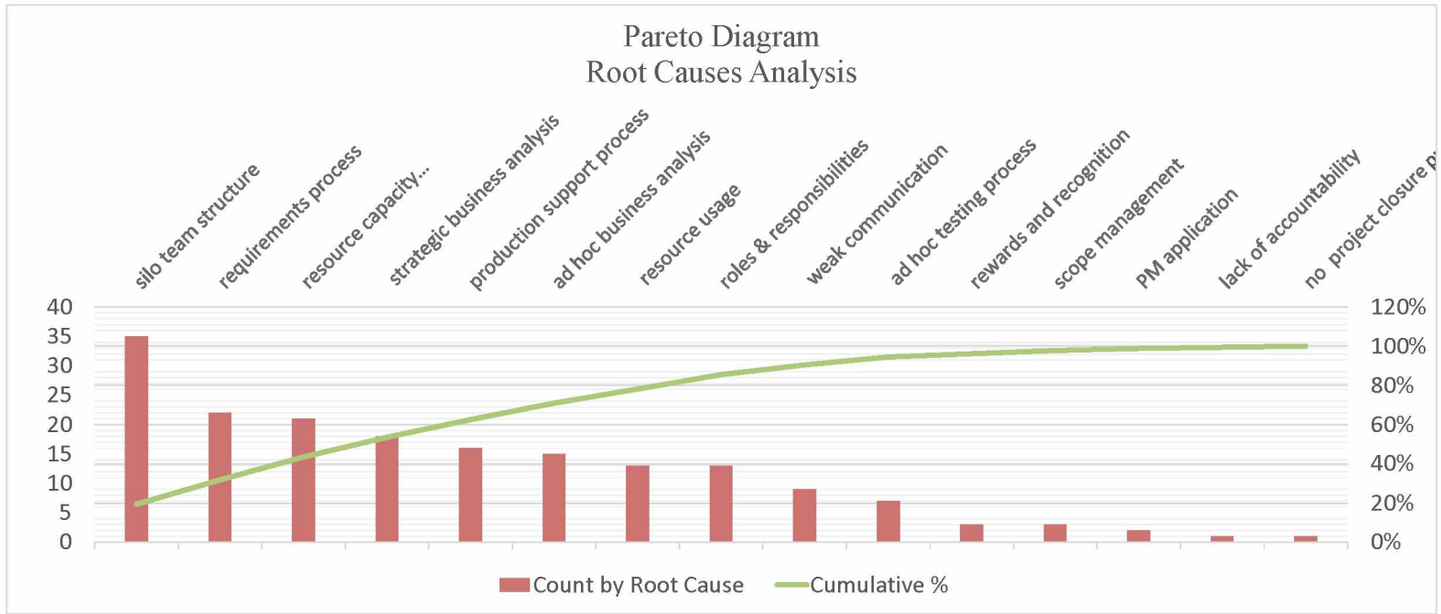
16. What are the strengths of the current team structures?

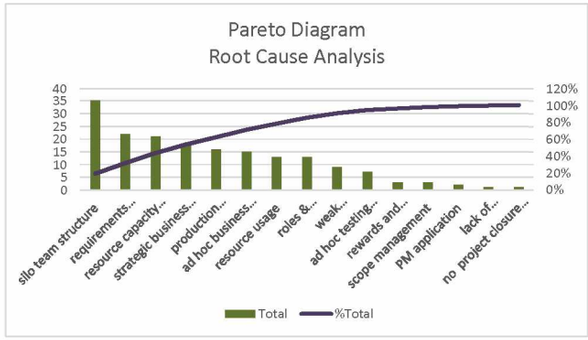
17. What are the weaknesses of the current team structures?

18. What are the strengths of the development process?

19. What are the weaknesses of the development process?

Root Cause	Total	%Total	Cummulative Total
silo team structure	35	20%	35
requirements process	22	32%	57
resource capacity management	21	44%	78
strategic business analysis	18	54%	96
production support process	16	63%	112
ad hoc business analysis	15	71%	127
resource usage	13	78%	140
roles & responsibilities	13	85%	153
weak communication	9	91%	162
ad hoc testing process	7	94%	169
rewards and recognition	3	96%	172
scope management	3	98%	175
PM application	2	99%	177
lack of accountability	1	99%	178
no project closure process	1	100%	179

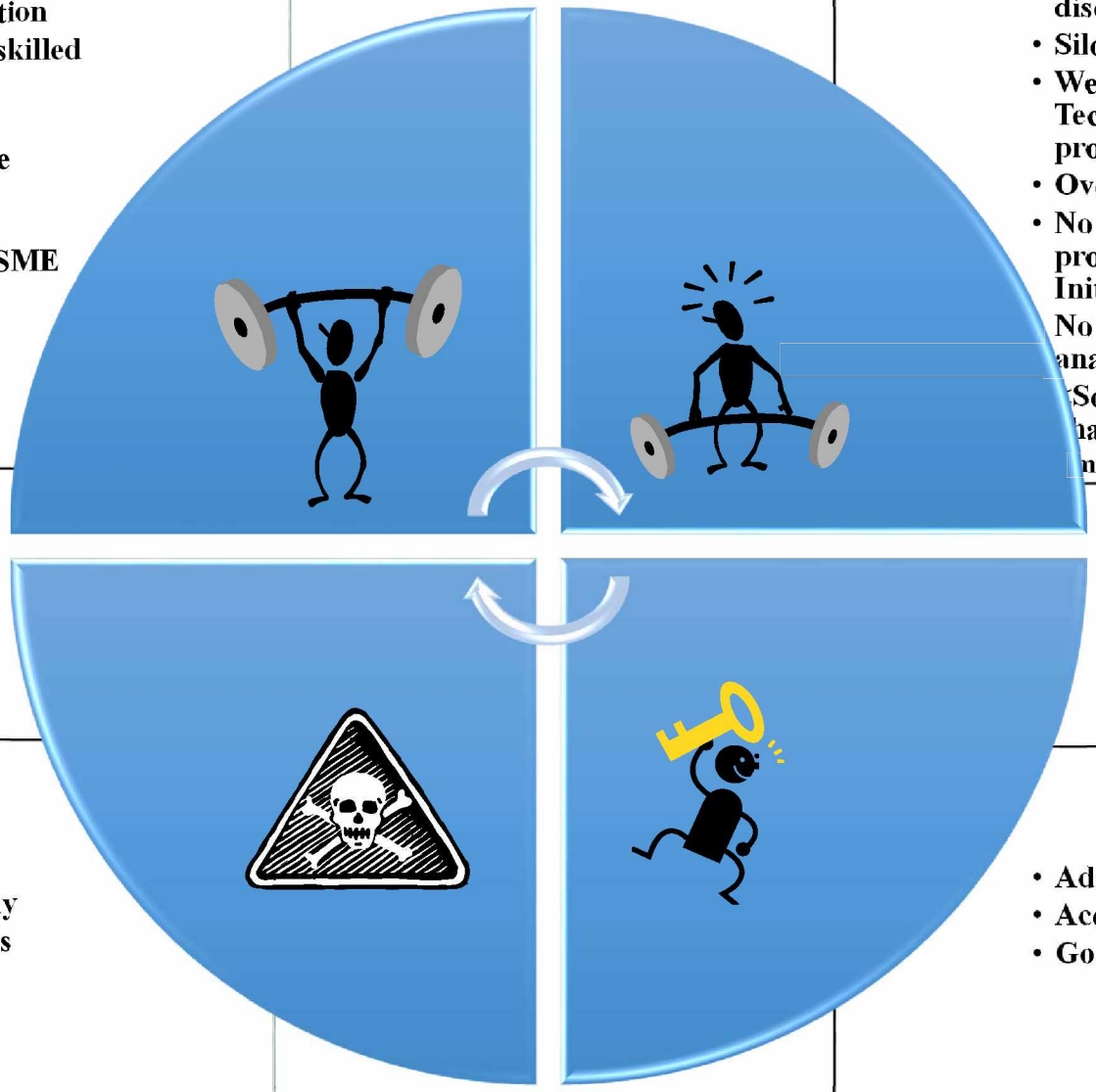




Reorganizing Business Analysis in an Information Technology Environment

SWOT Analysis

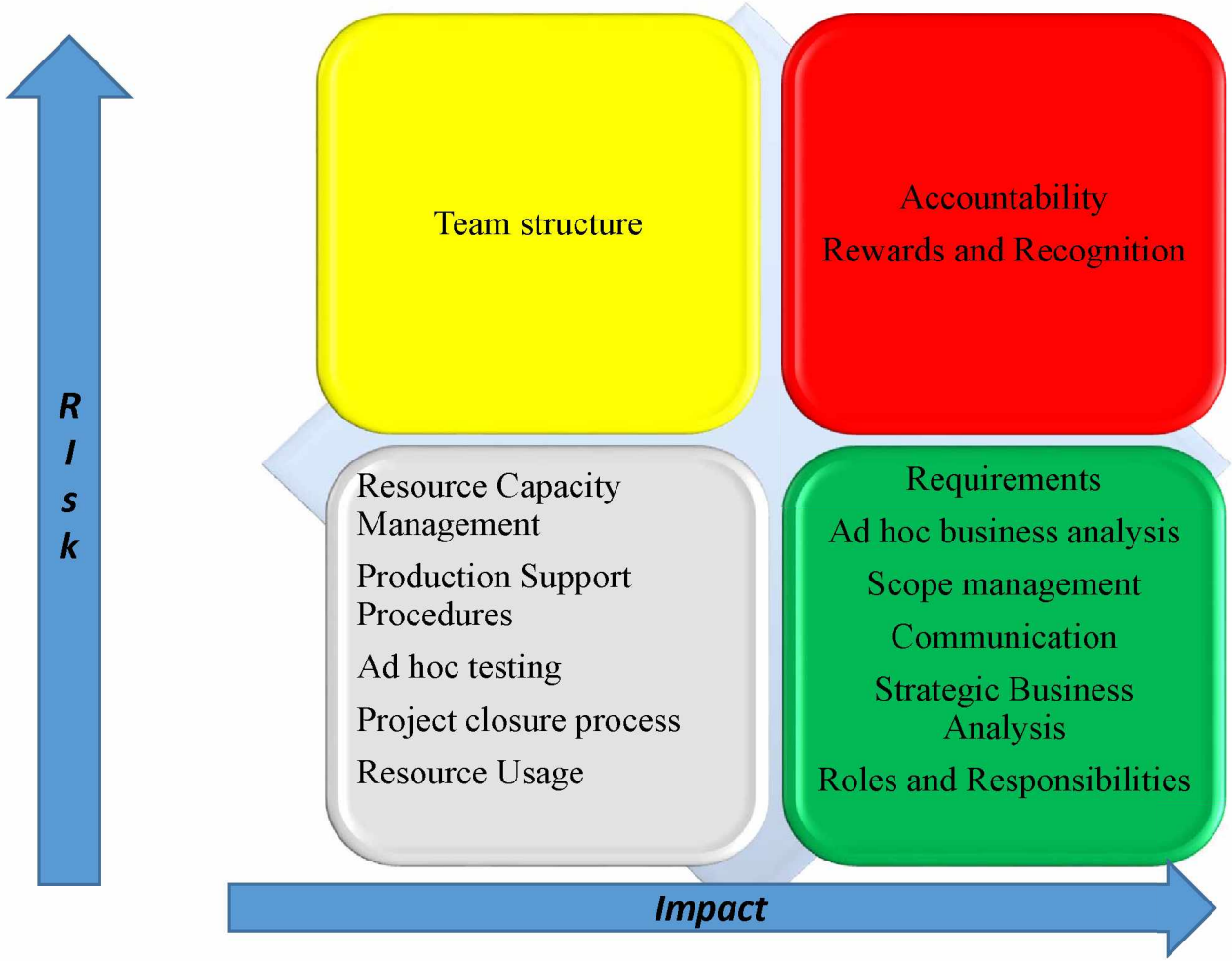
- Financially successful
- Growing Organization
- Innovative, highly skilled staff
- Highly skilled staff
- Business Units have assigned IT representative
- Applications have SME



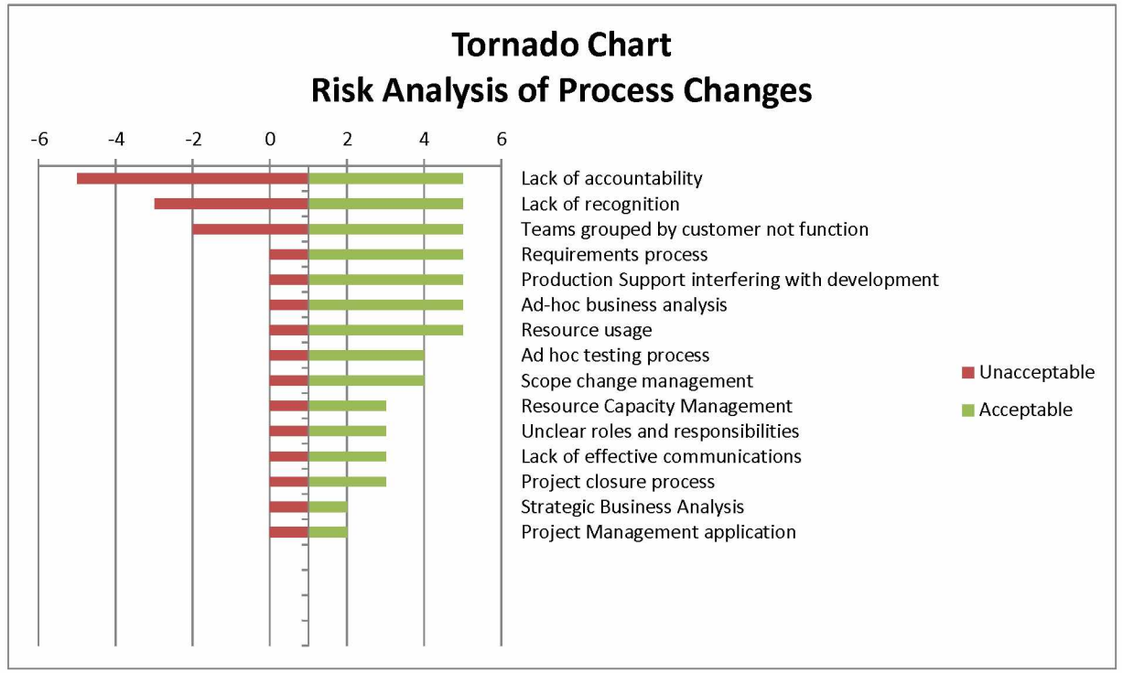
- Unplanned non-discretionary issues
- Silo Team Structure
- Weak Business and Technical Requirement processes
- Over-allocate resources
- No analysis done on projects prior to Initiation
- No business or process analysis
- Some resistant to change
- Communication issues

- Falling behind other institutions technically
- Internet security risks

- Add new market regions
- Acquisitions
- Good reputation


Risk
Team structure
Accountability
Rewards and Recognition
Resource Capacity Management
Production Support Procedures
Ad hoc testing
Project closure process
Resource Usage
Requirements
Ad hoc business analysis
Scope management
Communication
Strategic Business Analysis
Roles and Responsibilities
Impact

Cause	Unacceptable	Acceptable	Delta	1.633333
Lack of accountability	-5	5	10	0
Lack of recognition	-3	5	8	1
Teams grouped by customer not function	-2	5	7	1.5
Requirements process	0	5	5	2.5
Production Support interfering with development	0	5	5	2.5
Ad-hoc business analysis	0	5	5	2.5
Resource usage	0	5	5	2.5
Ad hoc testing process	0	4	4	2
Scope change management	0	4	4	2
Resource Capacity Management	0	3	3	1.5
Unclear roles and responsibilities	0	3	3	1.5
Lack of effective communications	0	3	3	1.5
Project closure process	0	3	3	1.5
Strategic Business Analysis	0	2	2	1
Project Management application	0	2	2	1



Root Cause/POPIT	People	Organization	Process	Information	Technology	Average
weak communication skills	3	3	5	5	3	3.80
PM application	3	4	5	4	3	3.80
strategic business analysis	3	2	5	4	4	3.60
ad hoc business analysis	4	0	5	4	4	3.40
roles & responsibilities	5	5	2	4	0	3.20
requirements process	2	0	4	5	4	3.00
scope management	0	2	5	4	4	3.00
ad hoc testing process	2	3	4	3	0	2.40
lack of accountability	5	3	4	0	0	2.40
silo team structure	5	4	2	0	0	2.20
resource capacity management	5	4	2	0	0	2.20
production support process	2	2	3	3	0	2.00
rewards and recognition	3	0	3	2	1	1.80
no project closure process	3	2	4	0	0	1.80
resource usage	3	0	0	0	0	0.60
Total by POPIT class	48	34	53	38	23	

Effect of Improving Root Cause 0 (No Impact) ➲ 5 (High Impact)

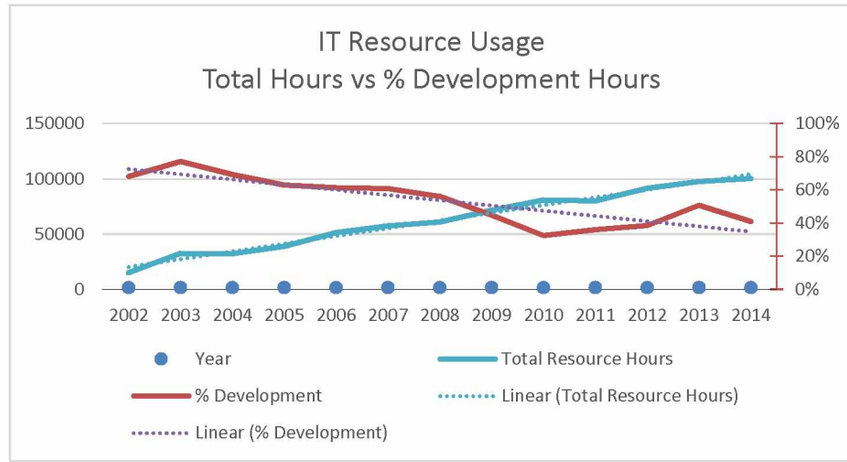
People |	Roles, job description, skills, competence, management activities, culture and communication
Organization |	Business model, external environment, capabilities and business memory
Processes |	Value proposition, value chain and core business processes
Information |	Information requirements and standards
Technology |	Technical and application architecture

We want to evaluate the value of "fixing" each of the 15 points, so he scored by value or impact to the area in the heading. Rule is to consider an average of 3 and above as priority for 'fixing'. Having some easier ways to look at the graph and know what it is saying would be WONDERFUL ;-) Also not tied to the colors so you can mix them up if you'd like. Otherwise the color coding in the main grid should provide an ability to glance and visualize the scores. Maybe make number in an interesting font? I dunno. Play with it and see what you can do. <3

Is_Production_Support	0

Row Labels	Sum of Hours
Development	**405,748**
2002	10,319
2003	25,321
2004	22,504
2005	24,639
2006	31,770
2007	35,126
2008	34,278
2009	32,172
2010	26,490
2011	28,995
2012	35,461
2013	49,650
2014	41,222
2015	7,803
Internal	**7,806**
2002	12
2003	149
2004	1,578
2005	1,041
2006	1,194
2007	3,551
2008	129
2009	47
2010	104
2011	2
Maintenance	**423,877**
2002	4,821
2003	7,490
2004	9,952
2005	14,472
2006	19,883
2007	22,514
2008	26,850
2009	39,559
2010	54,498
2011	51,259
2012	56,206
2013	48,087
2014	59,151
2015	9,137
Grand Total	**837,431**

Summary		
year	%Dev	
2002	68%	15,140
2003	77%	32,811
2004	69%	32,456
2005	63%	39,111
2006	62%	51,653
2007	61%	57,640
2008	56%	61,128
2009	45%	71,731
2010	33%	80,988
2011	36%	80,254
2012	39%	91,667
2013	51%	97,736
2014	41%	100,373
2015	46%	16,940
2016		
2017		
2017		
2018		



Reorganizing Business Analysis in and Information Technology Environment

C. Sue Dulaney

PM 686B

April 20, 2015

Agenda

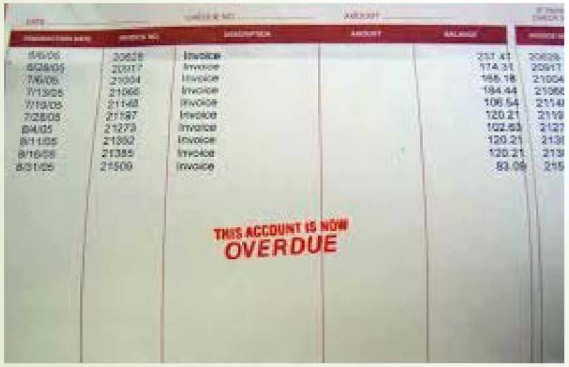
- Problem
- Research
- Conclusion
- Recommendation
- Summary

3

PROBLEM

Restructuring Business Analysis in an IT Environment

Annual Organization Initiatives



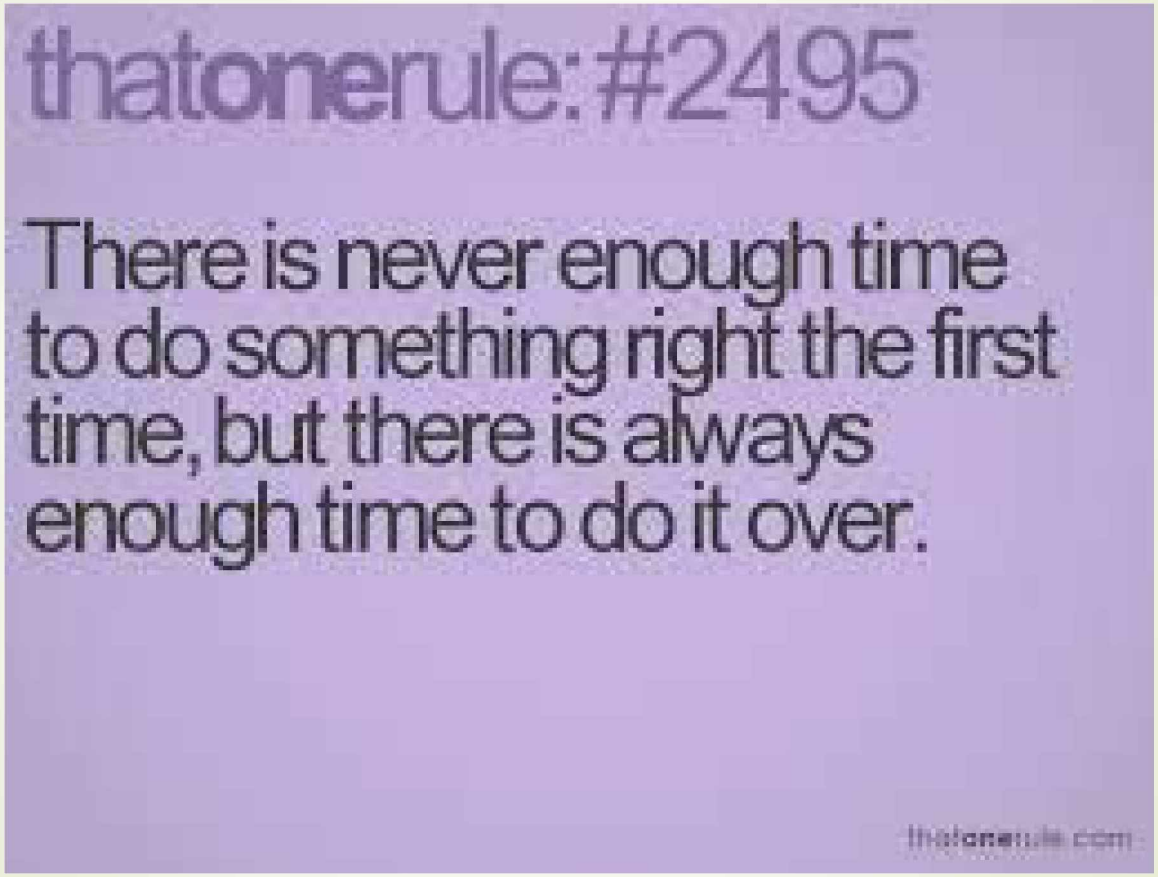
Overview

- Low Completion rate of Key Initiatives

Overview

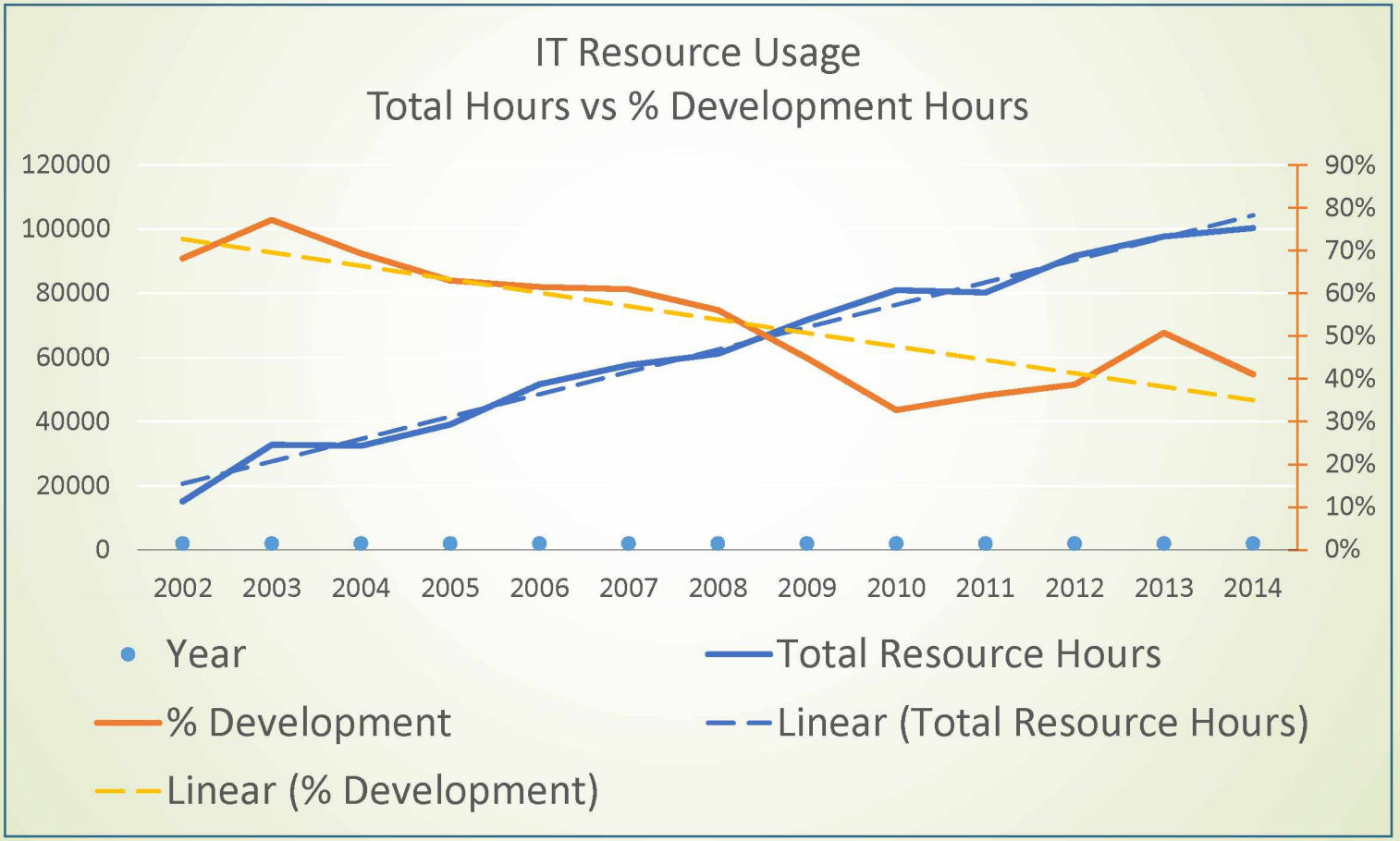
- Low Resource availability for discretionary projects

Project Re-Works

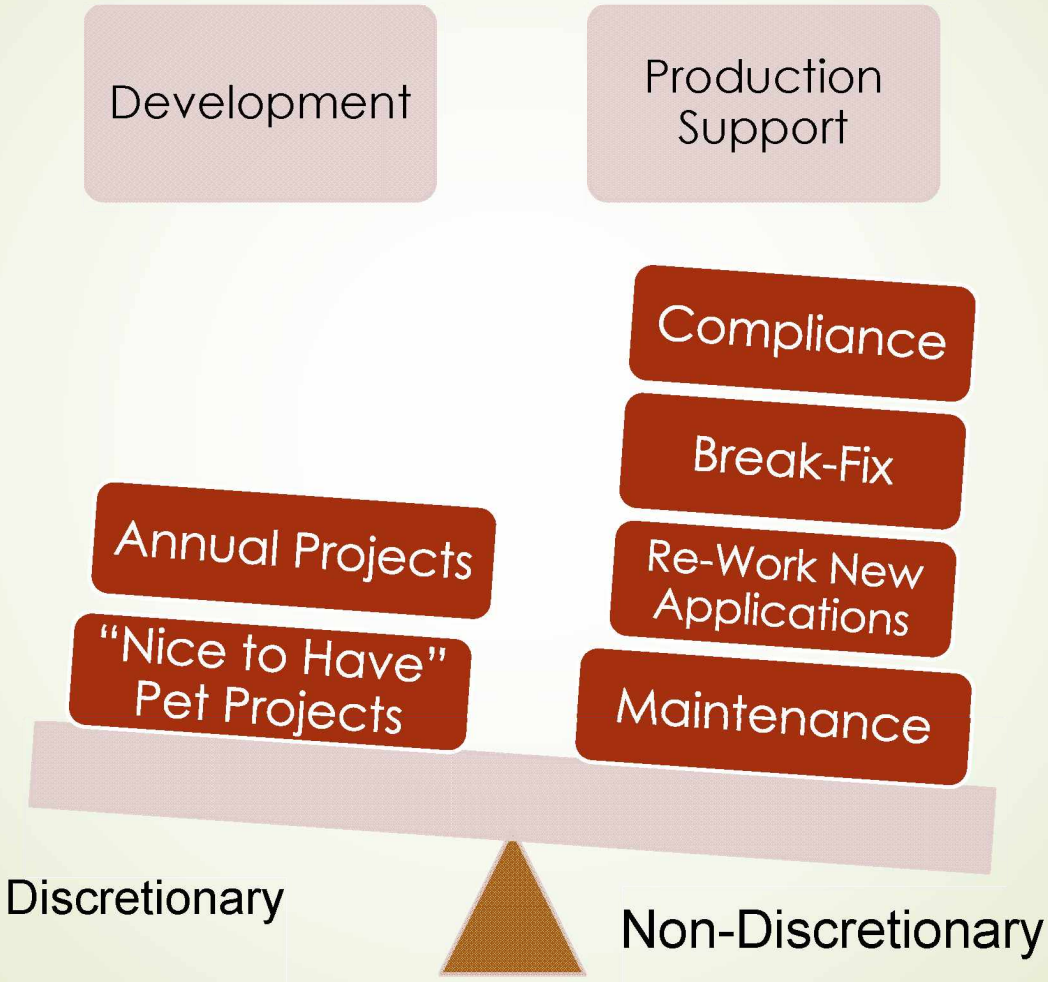


IT Resource Usage

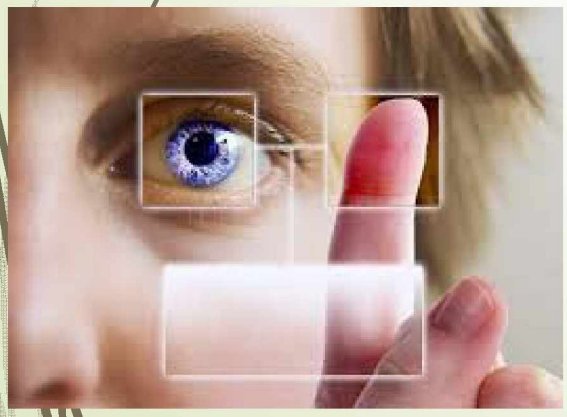
IT Resource Usage



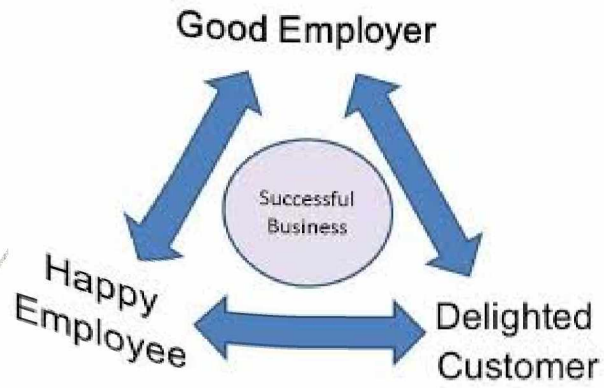
The Big Picture



The Effect



The Risks



April Showers Bring May Flowers,

Happy CUSTOMERS BRING REFERRALS

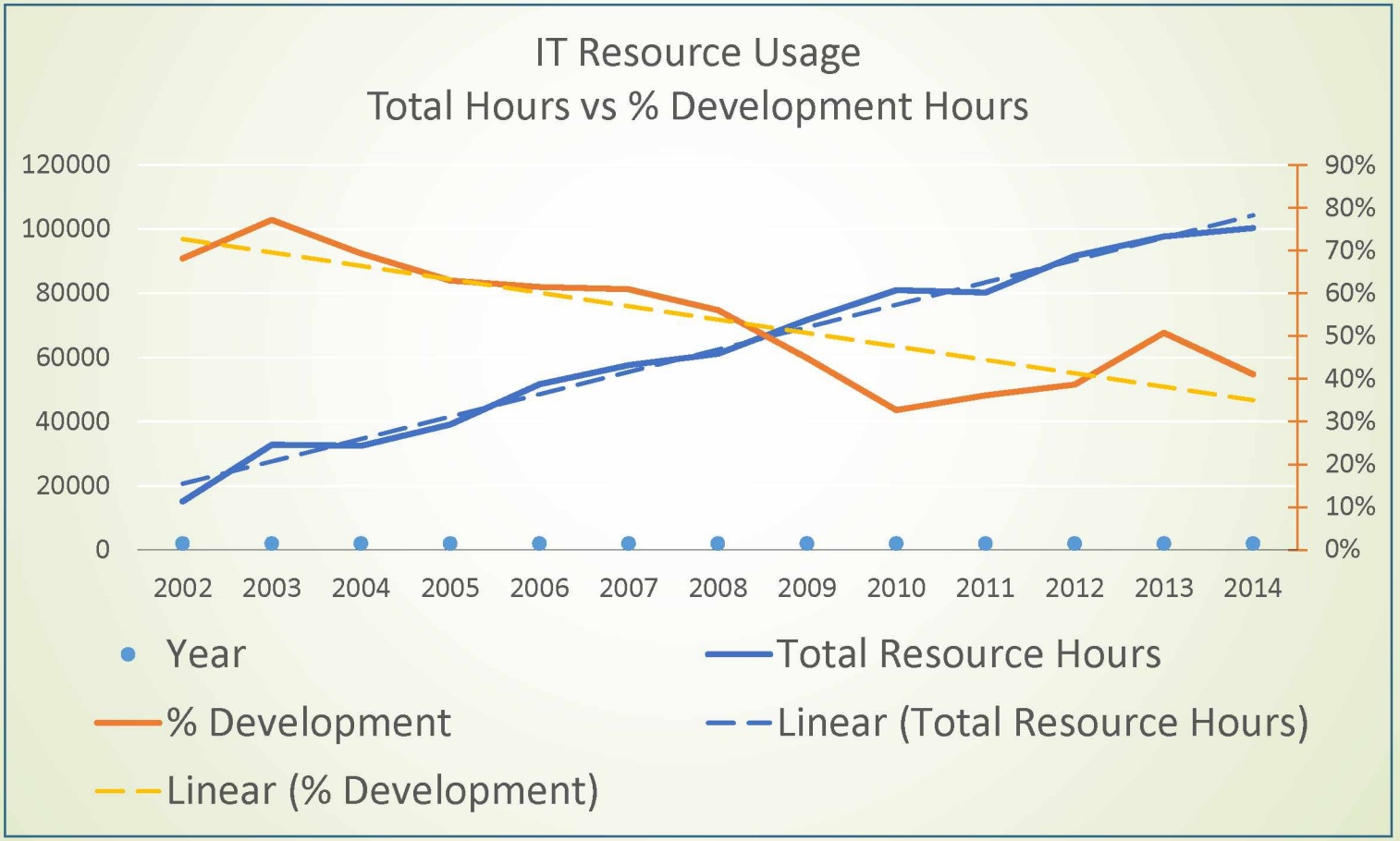
RESEARCH

Reorganizing Business Analysis in an IT Environment

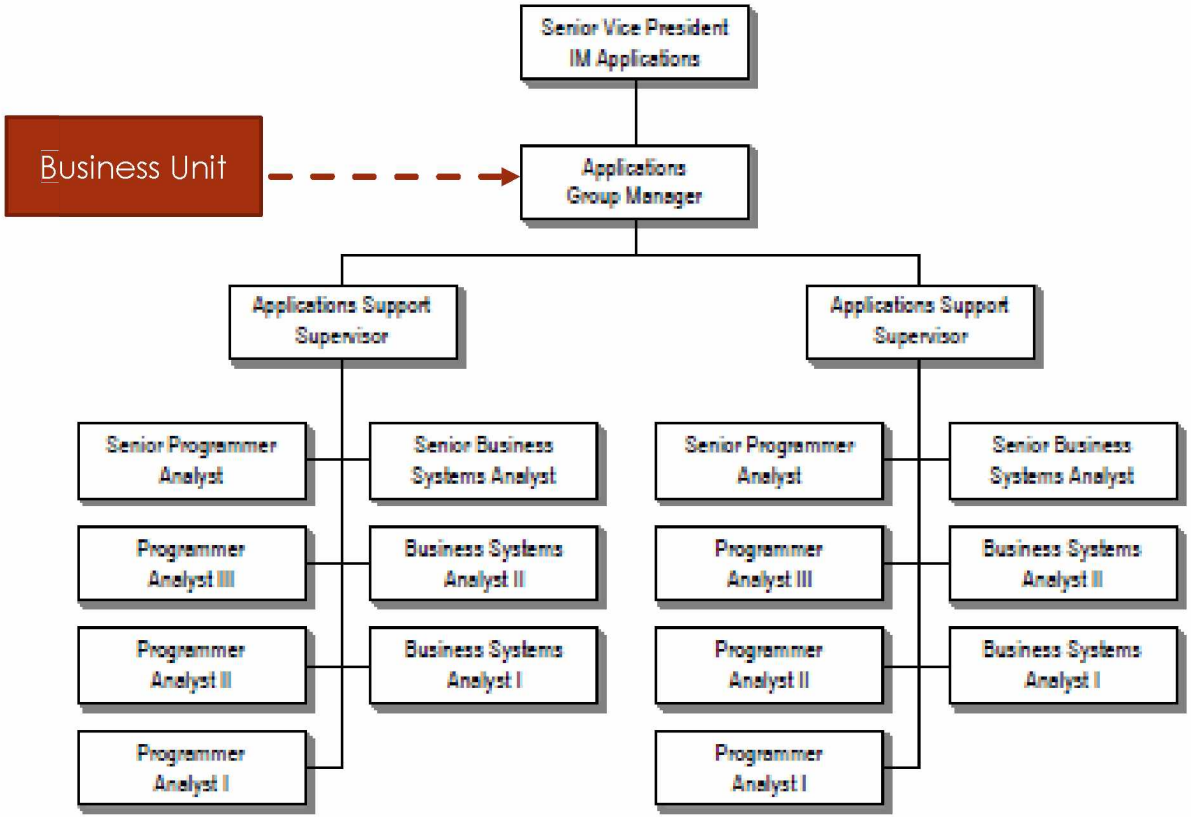
Where to Start?

- Examine the Current Environment
  - Project data
  - Current team structures
  - Interviews

IT Resource Usage



Team Structures



Research

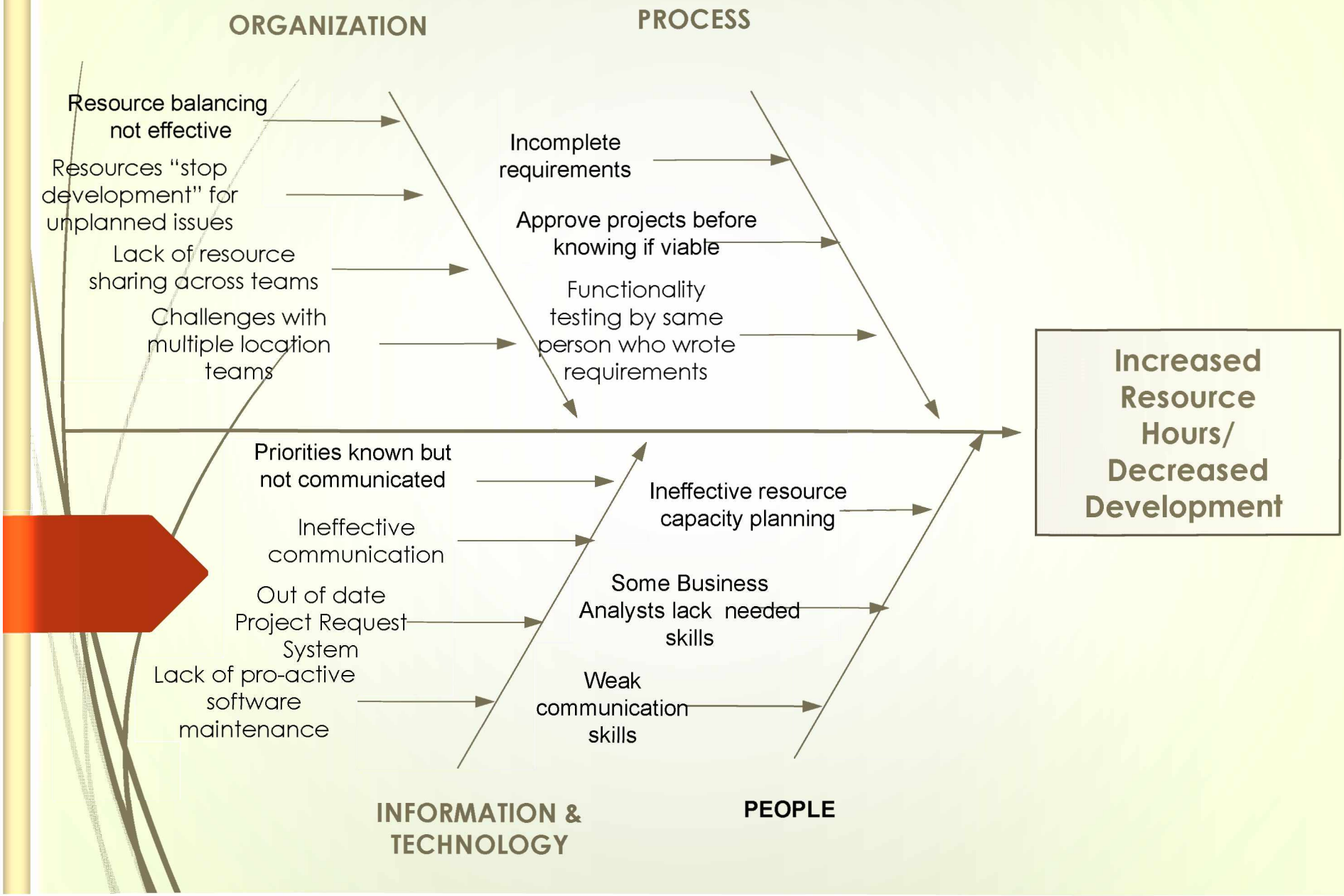
- Interviews
  - Participants
  - Interview style
- Delphi technique


Conflicting
Poor
Different
personal
Wrong
goals
Inept
Need
Thinking
Testing
perceptions
Skill
Varying
team
Communication
Unwilling
Change
values
styles
Roles
Time
Enough
Inconsistent
Priorities
Overworked
Incomplete
Training
Ineffective
resources
hired
Outside
Unpredictable
Employees
Unclear
Leadership
Changing
Requirements
Want
Lack
Vacation
Set
Inadequate
Expectations
Procedures
use
structures
Lazy
policies
Bay

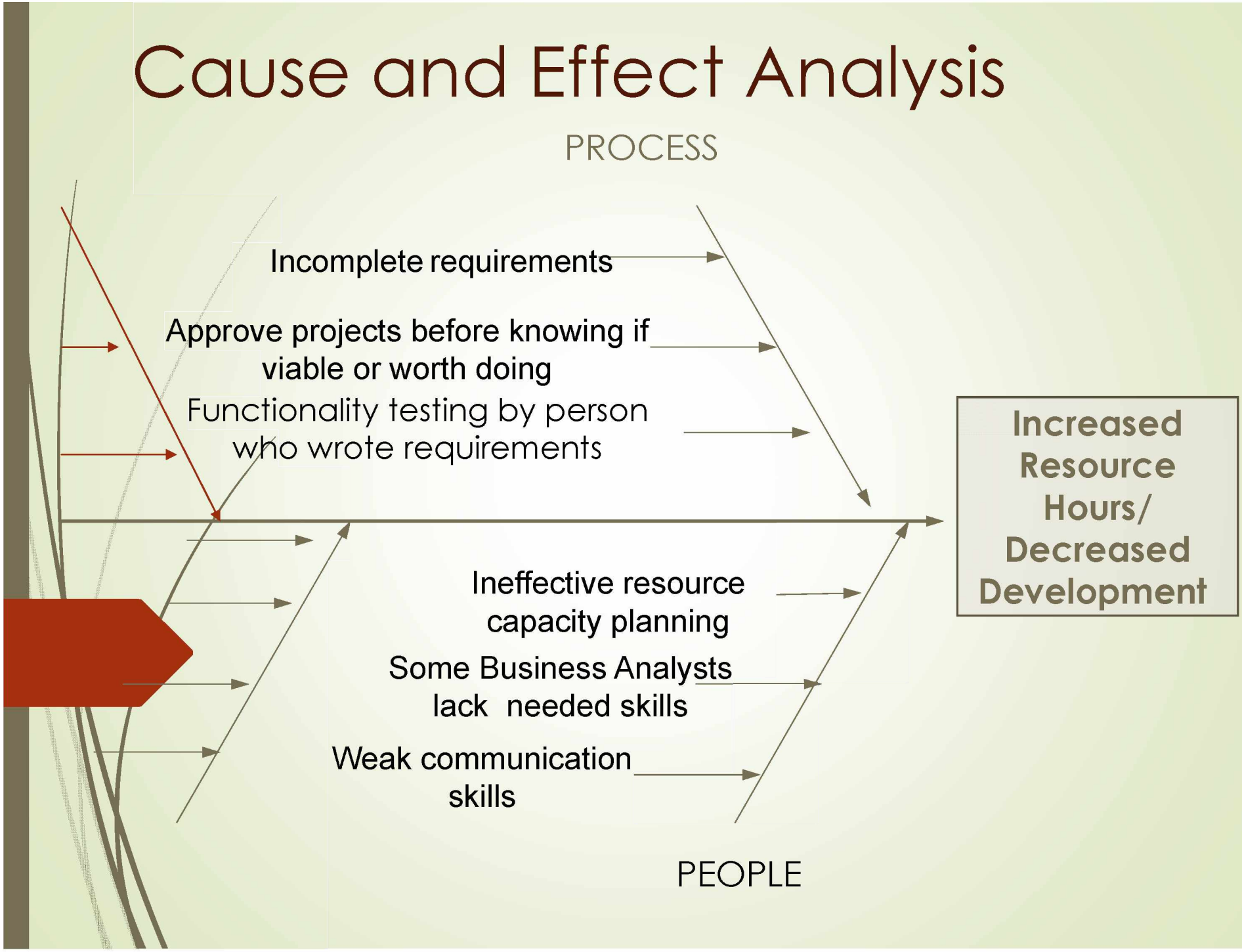
Data Analysis

- Cause and Effect Analysis
- Pareto Diagram
- Impact Analysis
- Tornado Chart
- SWOT Analysis

Cause and Effect Analysis

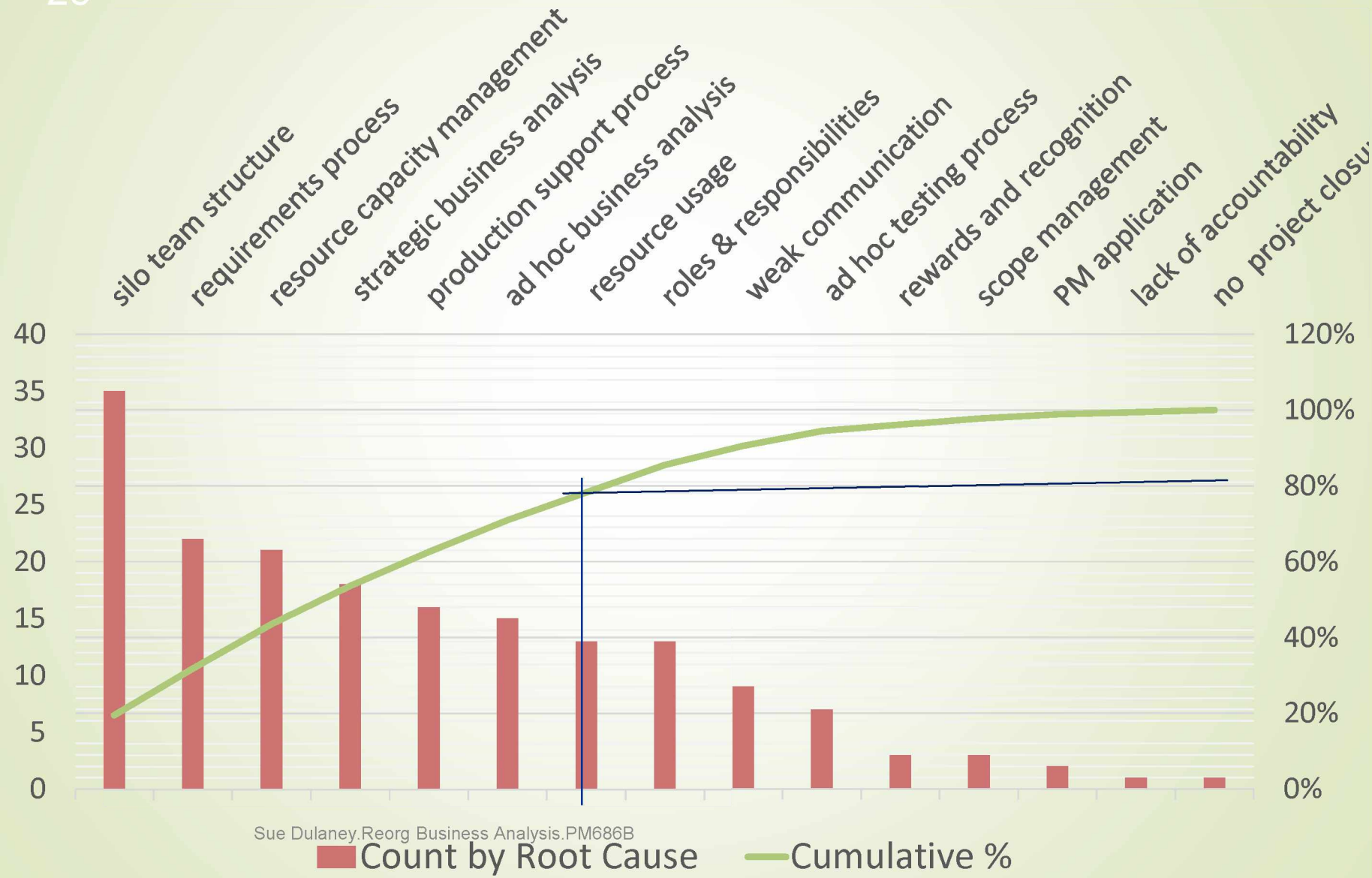


Cause and Effect Analysis



Root Cause?

Pareto Diagram
Root Causes Analysis



POPIT ™ Impact Analysis

Root Cause/POPIT	People	Organization(IT)	Process	Information	Technology	Average
weak communication skills	3	3	5	5	3	3.80
PM application	3	4	5	4	3	3.80
strategic business analysis	3	2	5	4	4	3.60
ad hoc business analysis	4	0	5	4	4	3.40
roles & responsibilities	5	5	2	4	0	3.20
requirements process	2	0	4	5	4	3.00
scope management	0	2	5	4	4	3.00
ad hoc testing process	2	3	4	3	0	2.40
lack of accountability	5	3	4	0	0	2.40
silo team structure	5	4	2	0	0	2.20
resource capacity management	5	4	2	0	0	2.20
production support process	2	2	3	3	0	2.00
rewards and recognition	3	0	3	2	1	1.80
no project closure process	3	2	4	0	0	1.80
resource usage	3	0	0	0	0	0.60
Total by POPIT class	**48**	**34**	**53**	**38**	**23**	

POPIT ™ Impact Analysis

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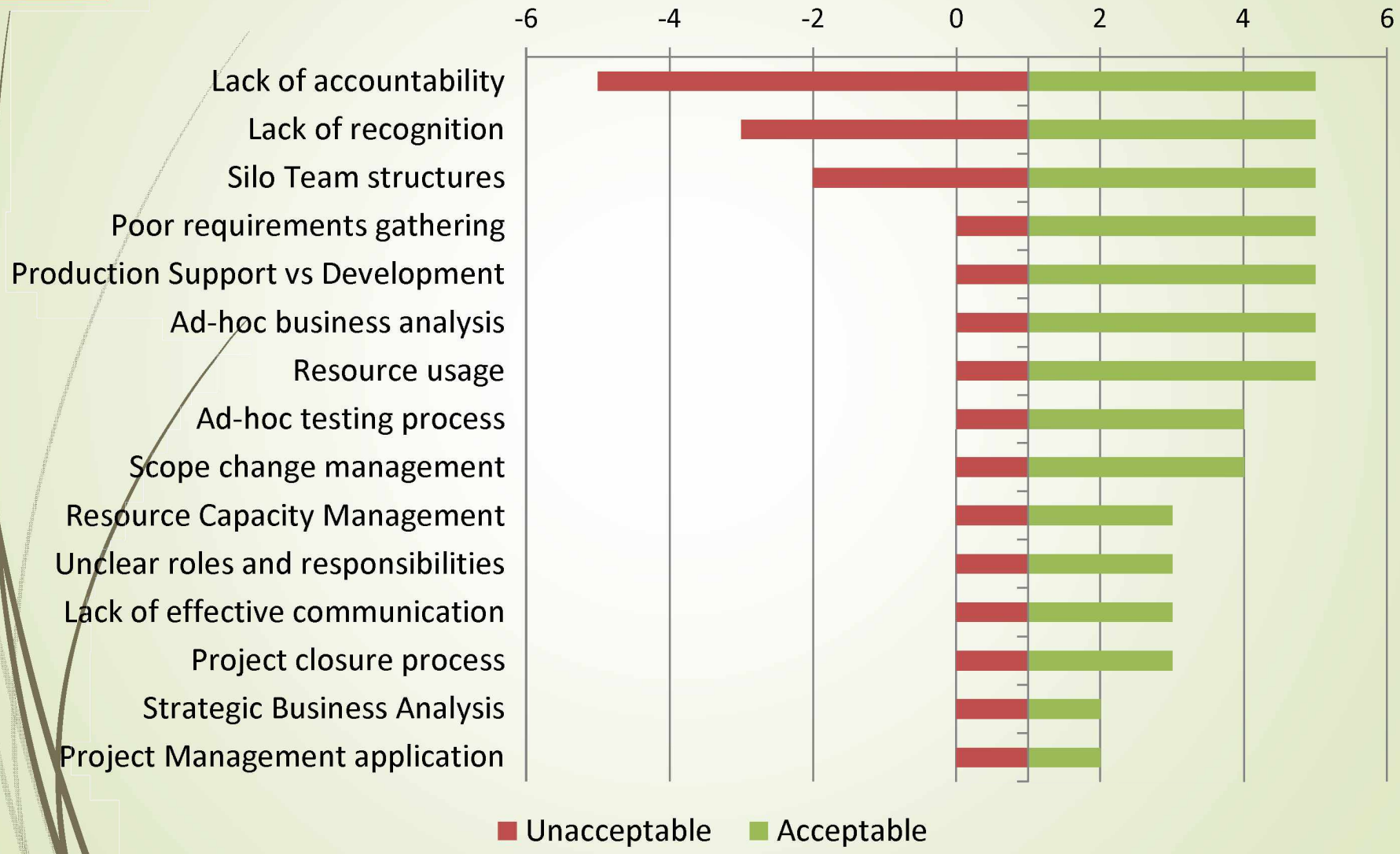
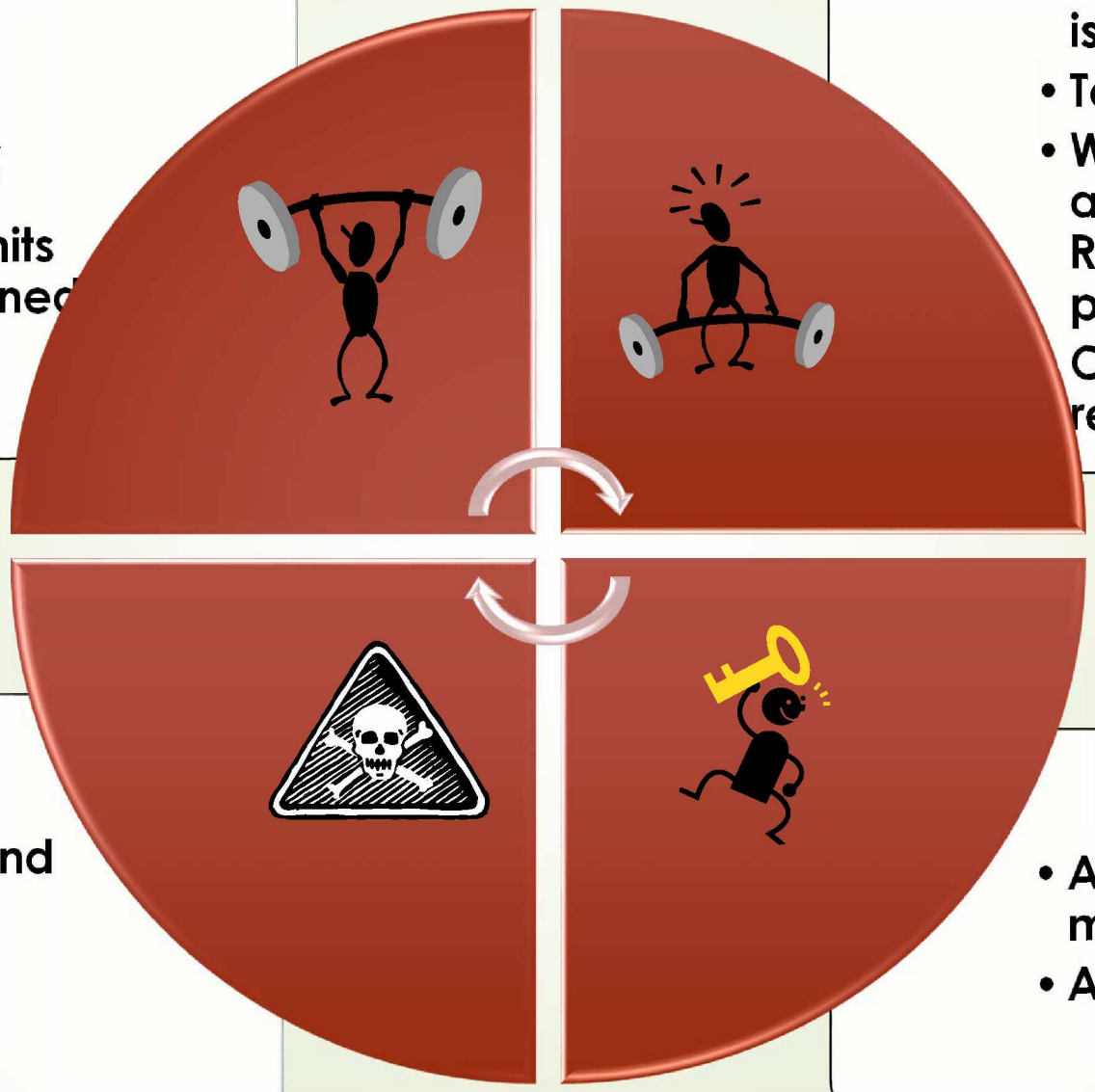
roles & responsibilities	5	5	2	4	0	3.20
requirements process	2	0	4	5	4	3.00
scope management	0	2	5	4	4	3.00

Risk Analysis of Process Changes



SWOT Analysis

- Successful financially
- Growing
- Innovative, skilled staff
- Business Units have assigned IT resource
- SME's



- Unplanned issues
- Team Structure
- Weak Business and Technical Requirement processes
- Over-allocate resources

- Falling behind other institutions technically
- Internet security risks

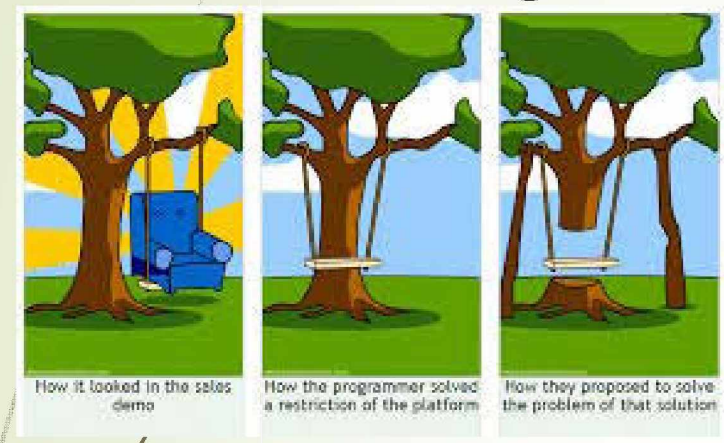
- Add new market regions
- Acquisitions

CONCLUSION

Strategic Business Analysis is the Key to Success!

Tune in … What are they saying?

Tune in…What were they saying?

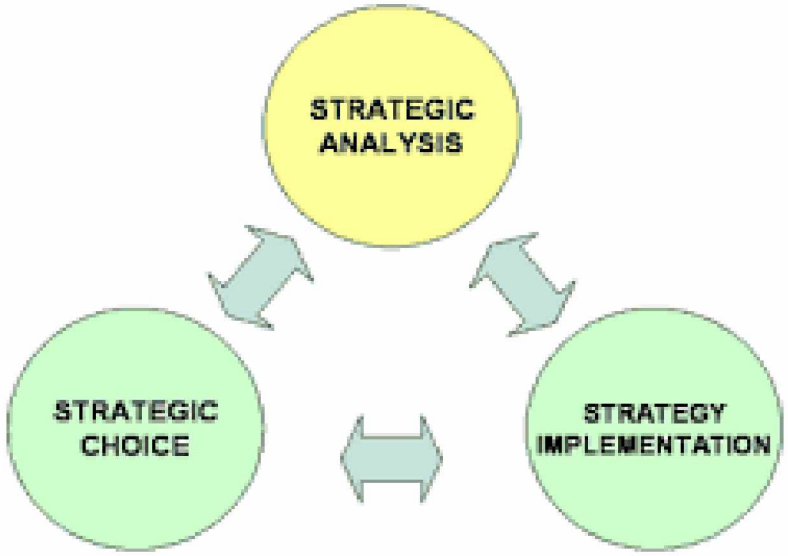


"**Poor requirements practices alone can doom any application development initiative.** No matter how well architected, well-constructed, or well-tested an application might be, it is essentially useless if it fails to meet business needs."

CIO Magazine

Tune in…What were they saying?

- Projects selected to pursue are often not worth their cost (time or money)
- Management approves projects with limited knowledge of project
- Underestimate size of projects, unable to determine resource needs
- No feasibility study or modeling of innovative projects prior to approval

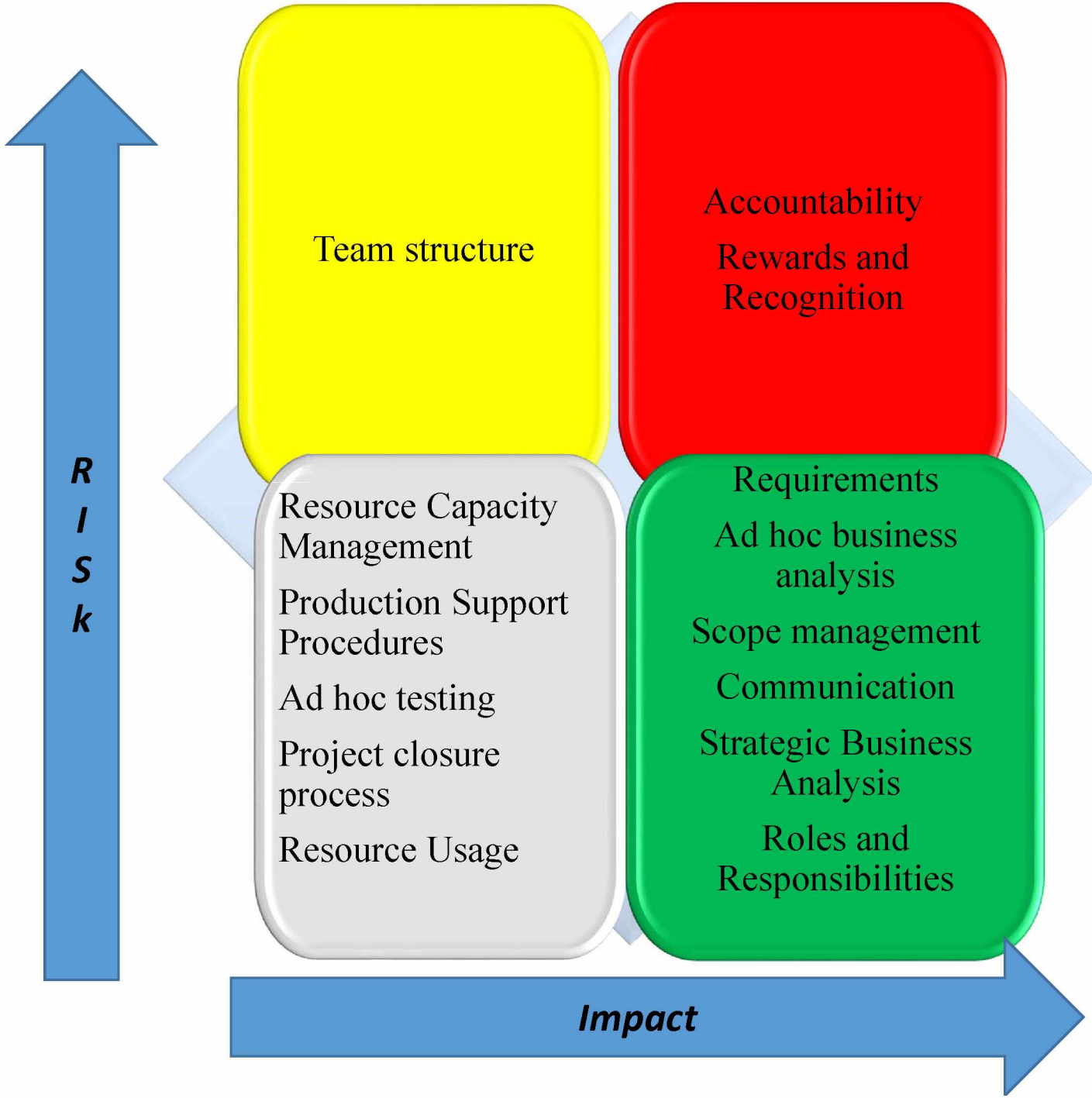


Tune in…What were they saying?

- Interruptions to address unplanned issues cause errors on projects
- Lose focus on assigned tasks when interrupted and have to stop and restart
- Many teams have no defined resource to address day-to-day issues.

Formulate a Plan

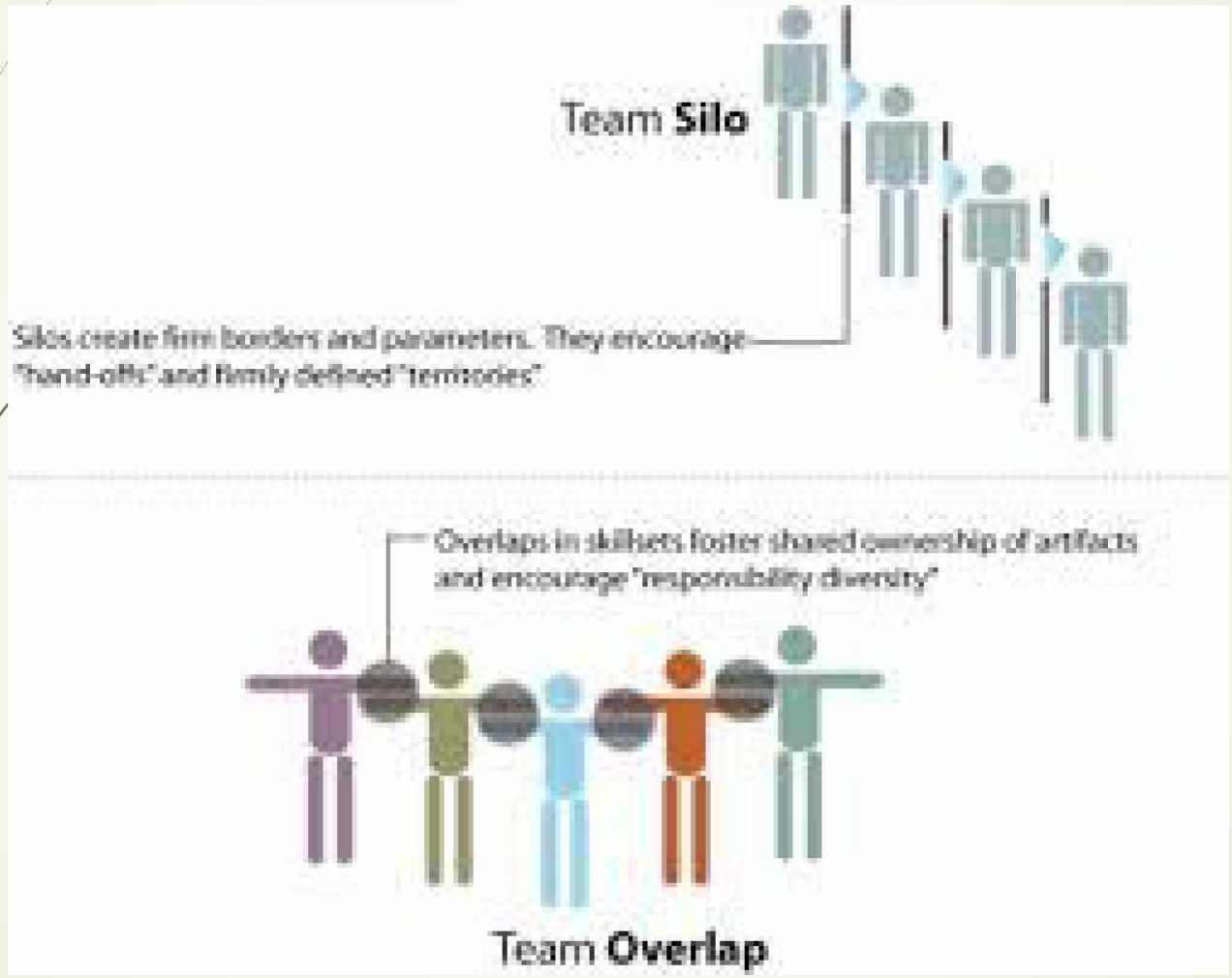
- Select the Best Options
  - Priority
  - Risk versus Impact
  - Ease of Implementation


RISk
Team structure
Accountability
Rewards and Recognition
Resource Capacity Management
Production Support Procedures
Ad hoc testing
Project closure process
Resource Usage
Requirements
Ad hoc business analysis
Scope management
Communication
Strategic Business Analysis
Roles and Responsibilities
Impact

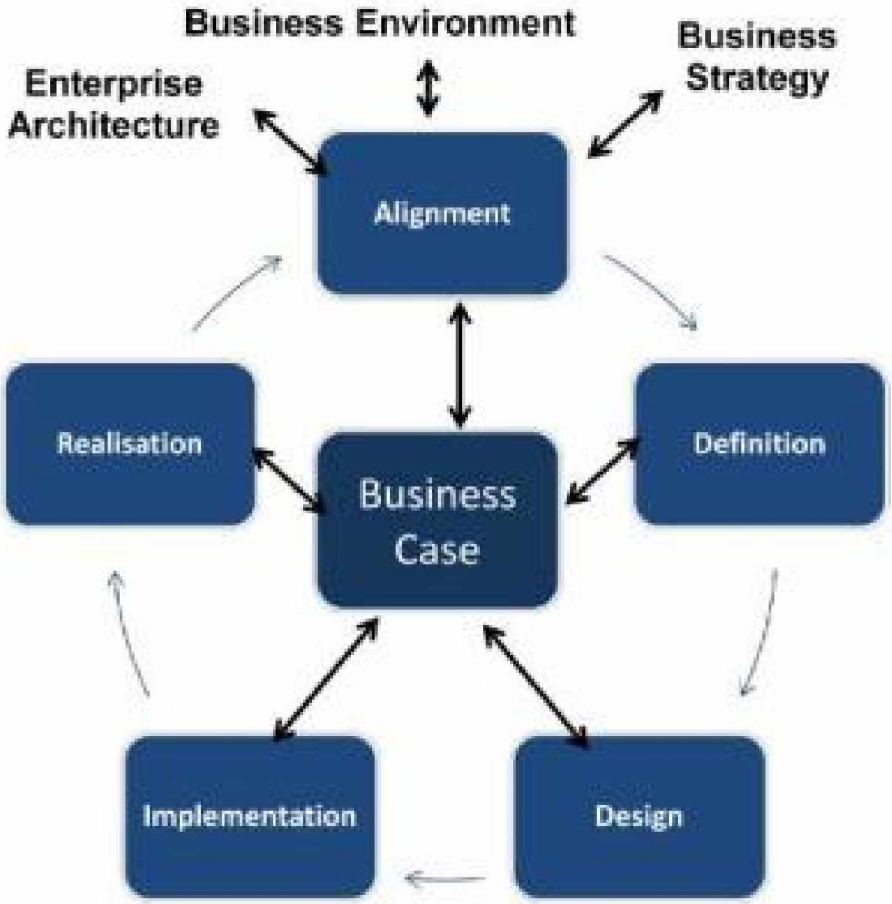
RECOMMENDATION

Restructuring Business Analysis in an IT Environment

Team Structure

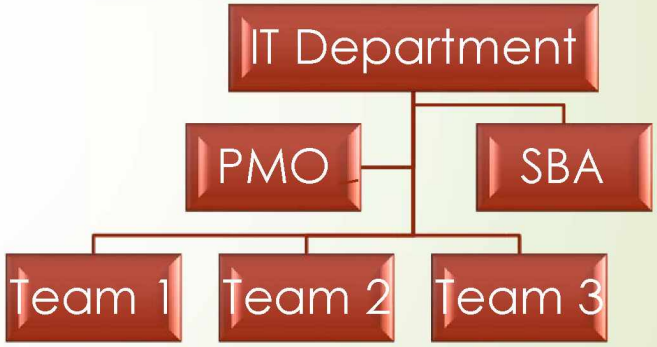


Business Change Lifecycle



Strategic Business Analysis

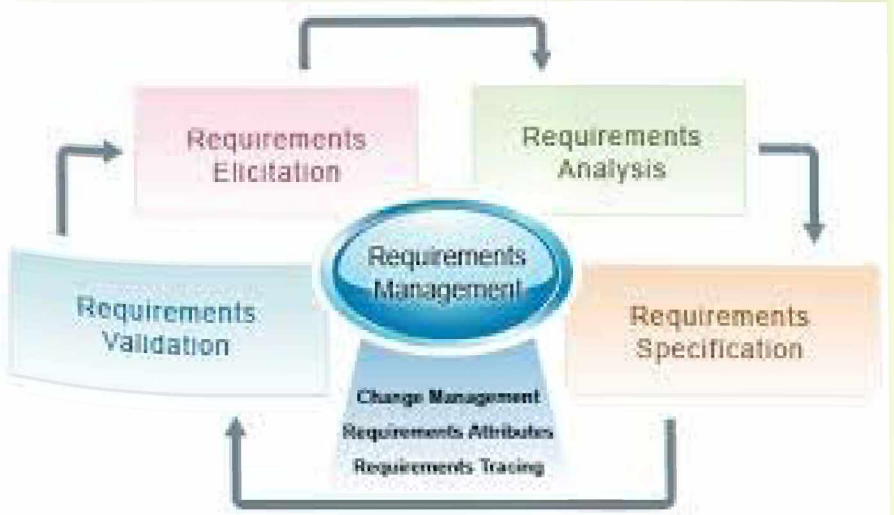
- Specialized Team
- Early Pre-Project Analysis
  - Align IT goals with Business Unit goals
  - Increase knowledge of project prior to annual planning
    - ROI
    - Project Charter
    - Gap Analysis
    - RACI Chart

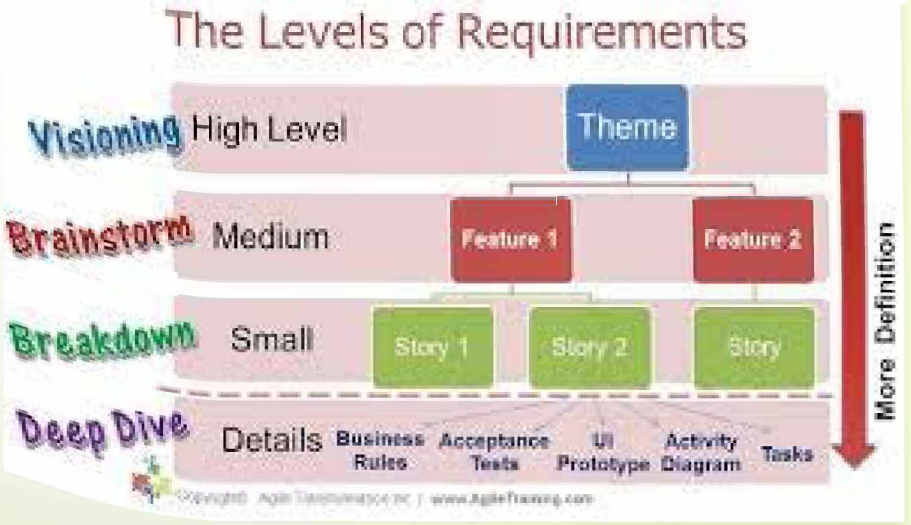


Requirements

Formal Process

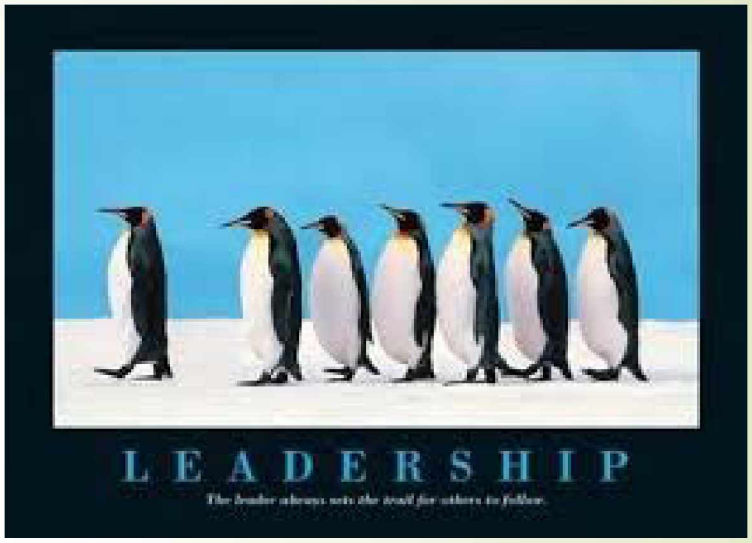
- Gathering Requirements
  - Technical
  - Business
- Change Process
- Tools and Techniques
  - Requirements Traceability
- Training
- Centralized documentation





Production Support

- Provide detailed escalation plan
- Designate a team member to triage and assign production issues
- Designate support resource on rotational basis
- Provide protection to staff supporting key initiatives



SUMMARY

Reorganizing Business Analysis in an Information Technology Environment

Short Term Recommendations

- Create Strategic Business Analysis Team
- Resource Sharing of Business Analysts and Business Systems Analysts across team
  - Roles and Responsibilities
- Processes and Procedures
  - Tools and Techniques
- On-Site Training
  - Requirements Gathering Techniques
  - Business Analysis Best Practices

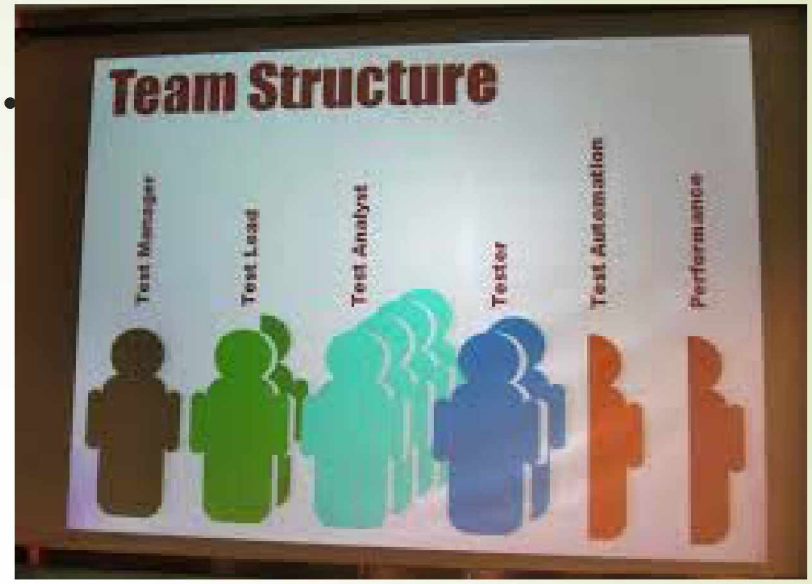
Long Term Recommendations

- Move teams to a functional team alignment
  - Business Systems Analyst and Business Analyst leave silo
  - A technical resource (BA or programmer) remains to assist in non-discretionary project analysis
- Retain "go to" person for business units but could be within Business Analysis team

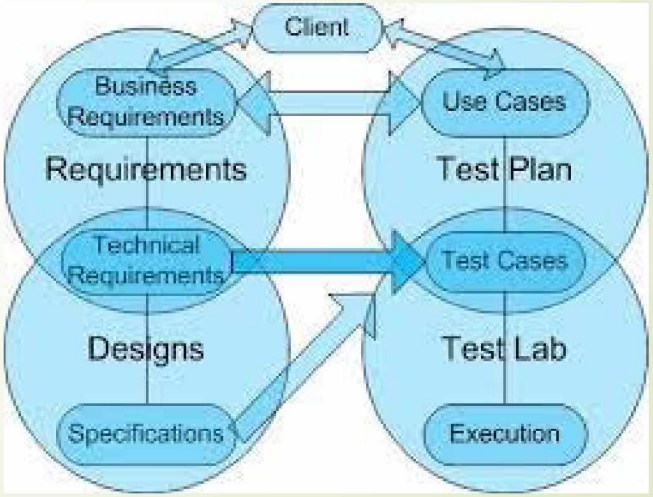
FUTURE RESEARCH

On the Radar

On the Radar….



Ad hoc testing processes

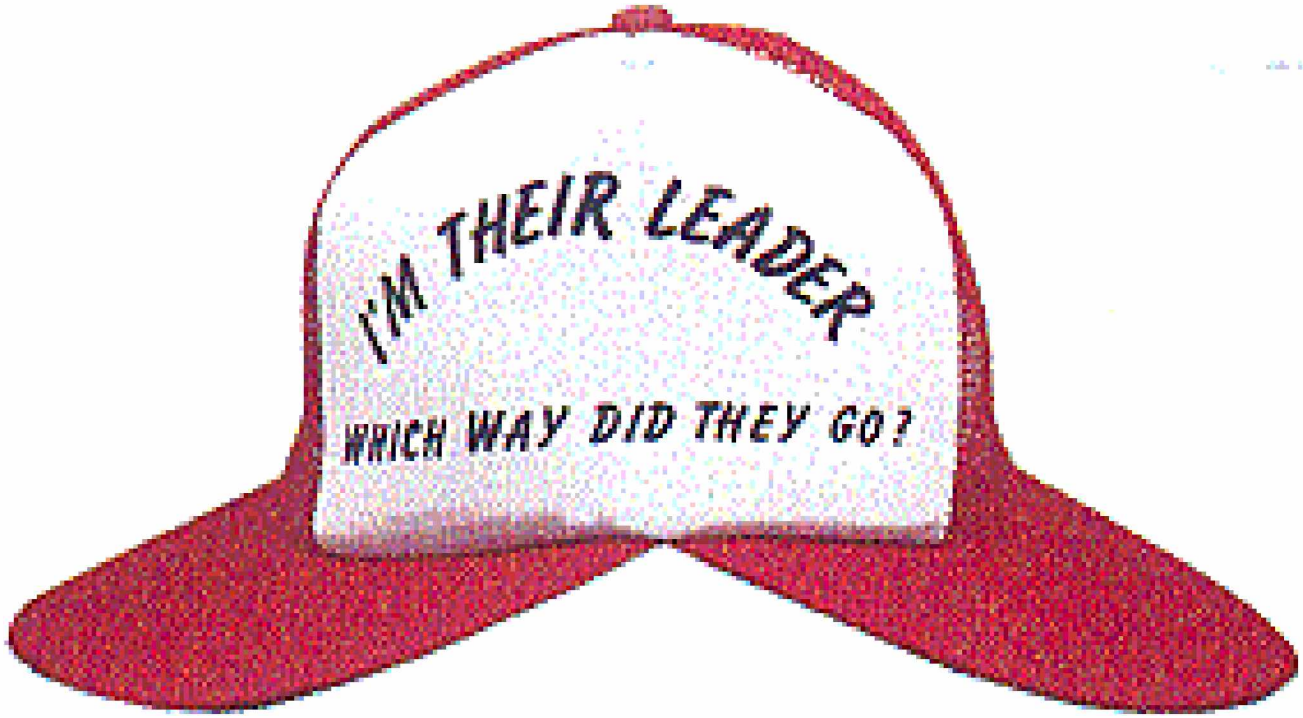


On the Radar…

Rewards and Recognition

On the Radar…

Lack of Accountability



On the Radar…

Resources alignment

What's next?

- Recommendations under review by Executive Management
  - Planning Consistent Business Analysis Processes
  - Reviewing approaches for more efficient resource usage
  - Considering specialized business analysis team

Acknowledgements

QUESTIONS?

LESSONS LEARNED

Reorganizing Business Analysis in an IT Environment

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Summary of Lessons Learned

Reorganizing Business Analysis in an Information Technology Environment

1. Overview

When undertaking any project, it is important to begin by having an understanding of what it is you are trying to achieve, and what they obstacles are to achieving it. The process of executing my Capstone was no exception to this rule. I would like to share some of the lessons that have come out of the final semester of the Capstone, and which I hope will prove as good lessons for others as they move forward in the program.

2. Lessons Learned

2.1. IRB Approval and Project Schedule

2.1.1. My project required approval from the Institution Review Board. Our class had some special challenges in this regard with the addition of a new leader for that function. As a result, I was not able to keep my initial planned interview schedule. This would continue to result in project delays through the project with a trickle-down effect. Could I have mitigated this?

2.1.2. First, keep moving. I went into a hold pattern while waiting for approval, when in fact there were things further down on my schedule that could have been addressed without approval.

2.1.3. In addition, keep your stakeholders involved and up to date. I had a management team that I planned to brief, "as soon as I got the approval". Thinking that having the approved documents and process approved would expedite the process. WRONG. What I would have found out if I had kept management in the loop was that they had a vision of how the research would be conducted that was not the same as mine. As you might suspect, since they were being gracious enough to give me access to their staff, and providing me with the ability to perform the interviews on site during working hours, they held all of the cards. (and rightfully so)

2.1.4. Because of my not keeping the key stakeholders informed I had to work meetings into the management teams busy schedules and review my research plan. My plan was to contact 40+ team members; there is was for me to contact 10 – 15. My design included talking to all levels of IT employees across all teams with the hope of getting about 20 participants. We negotiated back and forth of some points, my concern being that if the response from those fifteen were too low, I would want to contact additional potential participants. This was approved and ten days after IRB approval the interview process began. They delay could have caused my project to fail before it ever started. However, I was fortunate and had a supportive management team in the organization and supportive committee (thanks to both). Thirteen of the fifteen contacted responded promptly with their willingness to participate, and I was able to schedule all but one of them in the first week. I was truly lucky, so do not take the same chance. I will not ever make that blunder again! Remember keeping you stakeholders informed is important!

2.1.5. In addition, I should have begun restructuring my approach to the research I was doing. I had planned to methodically do the interviews, do the data analysis and then do the research on Best Practices. Best Practices did not require IRB approval, so I started that early, but should have moved on that earlier.

2.2. Scheduling

2.2.1. In my current position, we schedule in days, so that is how I began scheduling my Capstone as well. Do not do it! Having tasks labeled out in hours rather than days provided a lot more control and helped me to plan my work much more effectively.

2.2.2. Due to the challenges with the IRB Approval, the failure to communicate with my management team, and the long delay in starting my data gathering my project was at risk to not meet target dates. These issues all began early in the semester, so I began re-evaluate my work approach. Not only did I switch to hourly scheduling, I also re-evaluated how much time each day would be spent on my Capstone. My hours were increased to include lunchtime at the office, evenings until late in the evening, and increased weekend hours. This was still not going to resolve all the issues, and late delivery was still an issue.

2.2.3. Final steps to ensure completion were resolved when, instead of working down through the task list, I started doing parallel processing. What is that? I started doing multiple tasks rather than waiting to complete one before moving to the next. For instance, I wrote the recommendation for the project sponsor at the same time I wrote the final project report. Working back on forth on these kept me moving. If I hit a block on one, I moved to the other.

2.3. Communication

2.3.1. Plan your communication with your advisors, and follow through with it. Be sure that you are clear on their expectations regarding communication, and keep in mind that no two people are alike. Although I stay in touch with the advisory team, I've found that as I get busy I don't communicate. Remember that they are there to help you but they need to know what you need.

2.3.2. Communication goes both ways. I have found that some of my advisors are more communicative then others, and that each has their own style. Find ways to ensure that you get the feedback you need. Texting is great for some, bad for others. Emails can be great but if you don't get a timely response, follow up and ensure that they received your inquiry. Sometimes a quick visit can do more good than any other technique, so schedule face to face when you can.

2.3.3. Sometimes a quick visit can do more good than any other technique, so schedule face to face when you can. Be prepared. Have your questions ready, and be prepared to take notes.

2.3.4. Use your advisors strengths. Be sure to pick an advisory team that can provide different perspectives. Early on I was asking each the same questions. That was confusing for me and for them. Discuss early on areas of your project that they feel they can offer the most help.

2.3.5. When you don't understand something ask. I was embarrassed to ask some questions, thinking that I was the only one not understanding how to do something. When I asked the question, I was quite surprised to find that there were others that had the same questions.

2.4. Research Methods

2.4.1. With the small group that I had access to I wanted to have methods of validating data and obtaining stakeholder support for my recommendations based on that research. A few of the methods that I used effectively are:

2.4.1.1. Delphi Technique – I presented my processed data to a subset of the research group to see if the issues identified resonated with their experiences. Only one of the sixty-four comments was a "special case" and that provided me with a high degree of certainty that I had good data. In addition, reviewers offered feedback on approaches that they felt would improve some of the issues.

2.4.1.2. Management input – Management buy-in will be important to having the recommendations made having a chance for consideration and implementation. As a result, additional input was requested from them to score the identified root causes. They did this is two ways, first by how changes to the identified Root Causes would affect all areas of the organization, and second to evaluate risk. They had expressed the fact that risk of further interruption to the functioning of the project development process was more important to them than the cost of implementation, so this was used to provide a useful tool for prioritization of the recommendations. In addition, those that were considered important by the researcher but high risk by the management team were still reviewed, but recommendations recognized the risk and found ways to approach that might provide less risky, such as a phased gradual implementation.

2.5. Self-Management

2.5.1. Pace yourself. Working on your project continually can be risky. Fatigue contributes to errors. Above I said that I set goals for each day, and while that is true, I found I needed to set a 'stop' time. I have found that fatigue does not mean you cannot work late one night, but for me, it does mean that I cannot do it continually. Be sure to pace yourself and know your limits. Find ways to ensure that you stay alert, and take care of your other needs. (Sleeping, eating, playing…)

KNOWLEDGE AREA METRICS

Reorganizing Business Analysis in an IT Environment

C. Sue Dulaney
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Summary of Lessons Learned

Reorganizing Business Analysis in an Information Technology Environment

1. Overview

For the initial semester of the Capstone project I selected three knowledge areas to focus on. My initial knowledge areas were Risk Management, Stakeholder Management and Time Management. For second semester, I changed the mix by adding scope and quality management and dropping time management. I felt that with the execution of the project that it would be important to control scope and quality. In spite of not tracking time, it was still a key area of importance to me, and was managed more and more closely as the schedule began to slip. This will be covered in lessons learned.

2. Knowledge Area Metrics

2.1. Stakeholder Management

2.1.1. Execution of the project brought all stakeholders into focus. The stakeholders and project sponsor, executive management and other stakeholders from the targeted IT department, along with my committee would be instrumental in the outcome of the project in either a positive or a negative way.

2.1.2. Two important aspects of stakeholder involvement in this process were keeping the project sponsor and project committee informed on the status of the project with regard to current project status and any anticipated concerns that might be on the horizon; and keeping participants stakeholders involved in the process. I decided to measure my effectiveness in two ways: by evaluating how well I met my targeted dates for updating my project sponsor and project committee on project status, and participant attendance in scheduled meetings.

2.1.3. I felt that by keeping all informed and involved in the process I would have more open and effective communication in data gathering and as a result have a higher likelihood that the issues identified during the interview process would identify viable concerns that would lead to real resolution to the issue of low completion rates in key project initiatives. In addition, I anticipated that good stakeholder management would facilitate acceptance of recommendations from both management and team members.

2.1.4. By routinely tracking effectiveness in each of these area, stakeholder participation and delivery of status reports to the sponsor and committee, I was able to strengthen my ability to stay in touch. Stakeholder contact is an area that I needed to improve and with the tracking process was able to do so, but not without some challenges. Initially I was not effective in keeping my project sponsor and management team informed. I found that I was not using my own schedule for meeting with either my organizations management team or some of my project committee. This was turned around midway through the project by setting up regularly scheduled meetings in my office calendar.

2.2. Risk Management

2.2.1. Risk management was an excellent choice for this project. I created a risk register and documented all of my anticipated risks. Ways to mitigate these risks were determined

and immediately utilized in the process, with mitigation for these issues being highly successful. Metrics were done based on effectiveness of mitigation or response, as well as the number of risks that occurred were not anticipated. One of the key risks that I encountered should have been identified and could easily have been mitigated, and was related to poor stakeholder management early in the process. Another risk that continued to affect the project timelines throughout the project was the failure to recognized how not having IRB approval early in the process would affect the project schedule.

2.2.2. For second semester I was examining risks surrounding participants, but failed to anticipate how not keeping the targeted organizations executive management informed might affect the project. This was a large oversight on my part. Once I was ready to start the project, I contacted the management team to discuss my plan, "assuming" that earlier conversations with them were a full blown blessing to proceed. As a result of this assumption, ten days were lost from the date of IRB approval to the date I could begin contacting and interviewing participants. This relates back to poor stakeholder management and weak communication, and will be covered in lessons learned.

2.2.3. Metrics were done to determine the % of realized risks that occurred, the % of unidentified risks that occurred and the % of identified risks that occurred in spite of mitigation. I want to better understand if my methods of mitigation and planned responses are effective. I also am attempting to see if I am effective in identifying the potential risks in a project if a high % of unidentified risks occur, I will know that I have not been thorough in evaluating project risks. I expect this exercise to improve my understanding of how to build a stronger understanding of potential project risks, and help in future projects. This was an effective model for evaluating and learning the importance of mitigation and being prepared with effective responses.

2.3. Scope Management

2.3.1. Scope Management was done by using the requirements traceability matrix and performing metrics on the number of changes to requirements within each phase of the execution process. My concern was that issues might be identified during the interview process that were outside of the Business Analysis and Team Structure areas of the organization. If these had high scores within the Pareto Analysis, it was anticipated that I would need to extend my scope. I wanted to control this through a solid change management process, providing a paper trail of changes in direction. Other possibilities were that it would be determined not to pursue these issues, and provide them for later consideration depending on feedback from the project sponsor.

2.3.2. Scope management was highly beneficial to the project success. Any revisions were tracked on the Requirements Traceability Matrix, and metrics were performed to determine how effective initial requirements were. Initially a change in direction was made on the requirements for data analysis but as the project progressed the number of changes to requirements remained in the acceptable level.

2.3.3. As a member of an organization that is strong in filing change requests for system updates, we are very weak in tracking project requirements changes, or in getting sign off for these changes. I wanted to experience the benefit of good tracking of requirements and be able to effectively communicate that value of doing so. It was a

great feeling to see the benefit of keeping the project goal in sight and not having lots of shifting of focus or requirements! I think my Scope management was beneficial overall to "keeping my eye" on the real goal of the project.

2.4. Quality Management

2.4.1. Quality is an important aspect of any project, and I wanted to be sure that I controlled quality with regard to two main areas: Did I ask the right questions? Did I get viable solutions from the data that I gathered?

2.4.2. The most exciting aspect of this project was seeing that not only did I ask the right questions, but also that the decision to use open-ended questions and interview face to face was on target. This aspect of the project was spot on with a yellow status early on due to being unable to evaluate the effectiveness of either the questions or the data. Tracking these components provided me with reassurance that the data was viable and that the questions did not need to be revised as provided in risk mitigation.

3. Knowledge Area Metric Table

KNOWLEDGE AREA METRICS - Reorganizing Business Analysis in an IT Environment												
Critical Success Factor	Priority	Performance Metric	Metric Target	Responses	PPM1	Analysis PPM1	PPM2	Analysis PPM2	PPM3	Analysis PPM3	PPM4	Analysis PPM4
Scope Management	H	Number of review cycles it takes to get requirements sign-off by Project Sponsor	No more than four review cycles	If more than four cycles required to gather requirements, review how requirements were gathered and document issues in lessons learned.	First round of requirements gathering completed, review in process. Focus group review planned. Unable to determine success/failure	Data collection has only required one review of data, and based on responses anticipate no further review.	First round of requirements gathering completed, Refining data through individual feedback from selected participants	Initial data review has provided a rich amount of relevent data. Cause and effect analysis is being reviewed by subset of participants. Two rounds of collection and valid data.	Requirements gathering completed, Data analysis of data completed. Project Sponsor and other participant contact revealed no further requirements	Data has revealed some excellent areas to address in process Improvement. Data review by participants indicates feedback relevent to current environment	No changes to requirements.	
		Calculate the % of change requests opened because of missed or incorrect requirements.	< 20% per weekly reporting cycle		11.10%		33.33%	Had to revise the data analysis workflow due to errors in initial write up.	11.10%	Revision of project schedule to convert from daily to hourly;	0.00%	Continue on same path.
		Calculate the % of change requests opened because of a change of direction by stakeholders and sponsor.	< 20% per weekly reporting cycle		22.22%	Only using red and green is not suffricient to clarify status. Use 3 levels minimum High/Medium/Low on all measures	0.00%	Continue on same path. Added tornado diagram to analysis.	0.00%	Continue on same path.	0.00%	Continue on same path.
		Quantity of Change Request	< 2 per weekly reporting cycle		0.00	Same as above	0.00%	Same as above	0.00%		0.00%	
Quality Management	H	Did project requirements provide a possible solution	Yes, per review by Project Sponsor	If no, analyze the process and how it could have been more effective Add to lessons learned.	Unknown	Too early in project to obtain meaningful metrics using this criteria.	Yes per review of project sponsor and Capstone advisor		Yes per review of project sponsor and Capstone advisor		Yes per review of project sponsor and Capstone advisor	
		Were the interview questions effective?	> 60 % of responses led to requirements (green) >40 % of responses led to requirement (yellow) < 30 % of responses led to requirement (red)	Lessons Learned: Was there better way to word questions? Improve Questions during process.	Unknown	Mitagation during process. Still too early to determine success/failure	20.00%	Count number of questions and those that produced the viable results	Interview process completed and questions were on target for viable requirements		Interview process completed and questions were on target for viable requirements	
Risk Management	H	**Perform metrics from risk register:**										
		% of Identified Risks where risk response from Risk Matrix failed	< 10 % good response (green) <30 % questionable response (yellow) >40% poor response (red)	Add Actual Response to the Risk Register and evaluate why proposed response was not appropriate	0%		0%		0%		0%	
		% of Identified Risks that Occurred	< 10 % good mitigation (green) <30 % questionable mitigation (yellow) >40% poor mitigation (red)	Lessons Learned: Was there better way to mitigate risk?	15.70%	Ongoing conversations with management earlier in process may have helped to forsee demand for document review and participant list. Concern was that review of documents prior to approval could lead to confusion.	0%		0%		0%	
		% of Risk Events that were not identified	< 20% of realized risks unidentified	Lessons Learned & Add to Risk Register for next similar project	0%		13%		20%	Did not have risk for poor schedule planning. Response to add more hours to working schedule to catch up. Add to lessons learned.	20%	Did not have risk for poor schedule planning. Response to add more hours to working schedule to catch up. Add to lessons learned.
Stakeholder Management	H	Stakeholder attendance at scheduled meetings (individual and group meetings, including interviews and status meetings)	< 70% participation Good < 50% participation Fair <30 % participation Poor	Make meetings brief and provide incentives for attendance. Get buy in from stakeholders. Use email to keep informed to avoid interfering with work.	92%		81%		80%		75%	One conference had to be rescheduled but was done successfully.
		Meet delivery requirements for status reports to Project Committee members and Project Sponsor	>90% on time excellent (green) >80% on time fair (yellow) <80% on time poor (red)	Track issues with meeting deadlines and record in lessons learned. Find strategies to resolve.	Stakeholder management needs to be updated to reflect specific dates. Will also add to Project Schedule	Need clearer stakeholder management expectations. Plans are not specific enough.	Stakeholder management needs to be updated to reflect specific dates. Will also add to Project Schedule	Have not yet implemented plan. However, sent status report to all advisors and project sponsor. Met with 2 of 3 advisors and scheduled 3rd.	Meetings with advisory team and project sponsor now regularly held. Need to add project sponsor to office calendar.	Add to lessons learned to use recurring meeting capability in MS Office to schedule regular meetings with key stakeholders.	Added regular meetings with advisors to office calendare and having regular meetings with all but one advisor. Email communication with him successful	Communication with one committee member was done via email due to their work load. This was not always effective but continued to communicate. Face to face and phone conferences with committee and sponsor worked well

3.1.1. The above table was used to define the metrics for each area being assessed, along with an action to take in the event of fair or poor performance. On Scope Management, I was initially just making green or red. There should have been at least a 'yellow' to better define the metric. This was updated on a go forward basis, and having three levels of scoring on metrics is important to better define the status. Having a "yellow" warning is of value to say, you need to do something different, or to alert the PM of potential issues before they become a real crisis.

KNOWLEDGE AREA METRICS - Reorganizing Business Analysis in an IT Environment

Critical Success Factor	Priority	Performance Metric	Metric Target	Responses	PPM1	PPM2	PPM3	Analysis PPM3	PPM4	Analysis PPM4
Scope Management	H	Number of review cycles it takes to get requirements sign-off by Project Sponsor	No more than four review cycles	If more than four cycles required to gather requirements, review how requirements were gathered and document issues in lessons learned.	First round of requirements gathering completed, review in process. Focus group review planned. Unable to determine success/failure	First round of requirements gathering completed, Refining data through individual feedback from selected participants	Requirements gathering completed, Data analysis of data completed. Project Sponsor and other participant contact revealed no further requirements	Data has revealed some excellent areas to address in process improvement. Data review by participants indicates feedback relevent to current environment	No changes to requirements.	
		Calculate the % of change requests opened because of missed or incorrect requirements.	< 20% per weekly reporting cycle		11.10%	33.33%	11.10%	Revision of project schedule to convert from daily to hourly;	0.00%	Continue on same path.
		Calculate the % of change requests opened because of a change of direction by stakeholders and sponsor.	< 20% per weekly reporting cycle		22.22%	0.00%	0.00%	Continue on same path.	0.00%	Continue on same path.
		Quantity of Change Request	< 2 per weekly reporting cycle		9.00	0.00%	0.00%		0.00%	
Quality Management	H	Did project requirements provide a possible solution	Yes, per review by Project Sponsor	If no, analyze the process and how it could have been more effective Add to lessons learned.	Unknown	Yes per review of project sponsor and Capstone advisor	Yes per review of project sponsor and Capstone advisor		Yes per review of project sponsor and Capstone advisor	
		Were the interview questions effective?	> 60 % of responses led to requirements (green) >40 % of responses led to requirement (yellow) < 30 % of responses led to requirement (red)	Lessons Learned: Was there better way to word questions? Improve Questions during process.	Unknown	70.00%	Interview process completed and questions were on target for viable requirements		Interview process completed and questions were on target for viable requirements	
		Perform metrics from risk register:								
		% of Identified Risks where risk response from Risk Matrix failed	< 10 % good response (green) <30 % questionable response (yellow) >40% poor response (red)	Add Actual Response to the Risk Register and evaluate why proposed response was not appropriate	**0%**	**0%**	**0%**		**0%**	

Critical Success Factor	Priority	Performance Metric	Metric Target	Responses	PPM1	PPM2	PPM3	Analysis PPM3	PPM4	Analysis PPM4
Risk Management	H	% of Identified Risks that Occurred	< 10 % good mitigation (green) <30 % questionable mitigation (yellow) >40% poor mitigation (red)	Lessons Learned: Was there better way to mitigate risk?	**16.70%**	**0%**	**0%**		**0%**	
		% of Risk Events that were not identified	< 20% of realized risks unidentified	Lessons Learned & Add to Risk Register for next similar project	**0%**	**13%**	20%	Did not have risk for poor schedule planning. Response to add more hours to working schedule to catch up. Add to lessons learned.	20%	Did not have risk for poor schedule planning. Response to add more hours to working schedule to catch up. Add to lessons learned.
Stakeholder Management	H	Stakeholder attendance at scheduled meetings (individual and group meetings, including interviews and status meetings)	< 70% participation Good < 50% participation Fair <30 % participation Poor	Make meetings brief and provide incentives for attendance. Get buy in from stakeholders. Use email to keep informed to avoid interfering with work.	92%	81%	80%		75%	One conference had to be rescheduled but was done successfully.
		Meet delivery requirements for status reports to Project Committee members and Project Sponsor	>90% on time excellent (green) >80% on time fair (yellow) <80% on time poor (red)	Track issues with meeting deadlines and record in lessons learned. Find strategies to resolve.	Stakeholder management needs to be updated to reflect specific dates. Will also add to Project Schedule	Stakeholder management needs to be updated to reflect specific dates. Will also add to Project Schedule	Meetings with advisory team and project sponsor now regularly held. Need to add project sponsor to office calendar.	Add to lessons learned to use recurring meeting capability in MS Office to schedule regular meetings with key stakeholders.	Added regular meetings with advisors to office calendare and having regular meetings with all but one advisor. Email communication with him successful	Communication with one committee member was done via email due to their work load. This was not always effective but continued to communicate. Face to face and phone conferences with committee and sponsor worked well

PROJECT MANAGEMENT PLAN

Reorganizing Business Analysis in an IT Environment

C. Sue Dulaney
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VERSION CONTROL

Version	Author(s)	Role	Date
0.1	Dulaney	Project Manager	10/24/2014
Preliminary Draft of Project Management Plan with updated scope statement and abstract			
0.2	Dulaney	Project Manager	11/21/2014
Description of Version (or modifications) : Revisions based on Committee feedback and updating risks			
0.3	Dulaney	Project Manager	12/8/2014
Description of Version (or modifications) : 686A Final Review and update for final submission			
0.4	Dulaney	Project Manager	2/5/2015
Description of Version (or modifications) : Updates to Change Control Process; Requirements; Requirements Traceability Matrix, WBS; Gantt; Register and a result of Change Control actions for 1/23/15 – 2/5/15 detailed in change control log;			
0.5	Dulaney	Project Manager	2/26/2015
Description of Version (or modifications) : Add Tornado Analysis, update WBS			
0.6	Dulaney	Project Manager	4/25/15
Description of Version (or modifications) : Review and make final updates			

TABLE OF CONTENTS

1. INTRODUCTION

Each year a local financial institution's Board of Directors provides the executive management team their goals, which are then translated into an Enterprise Business Plan. The Enterprise Business plan's Technology plan is then organized and prioritized and Information Technology's (IT's) Operating Plan is defined. The primary goal of the projects in the Operating Plan is to support or enhance the organization's business objectives. Once identified, the projects are organized within the IT department and assigned to various teams where resource analysis is performed and preliminary delivery dates are determined. The goal is to complete the full Operating Plan by end of year, and fill in with lower priority development and maintenance projects as time permits.

A review of the organization's Operating Plans' completion rates indicates that the percentage of these key projects being completed each year is decreasing. Additionally, the project request system data demonstrates that while the number of project hours is increasing, the percent of these hours that are charged to development projects is steadily decreasing. Analysis of this data by the executive team has identified the increase in production support hours as a principal driver in this decline. The production support hours include time that resources spent working on unplanned issues affecting internal and external users, which can be classified as break-fix or maintenance projects opened to add features to existing applications. It was further determined that much of the resource time spent on production issues are related to quality issues relating to the business analysis process including incomplete requirements, inadequate testing and user training issues.

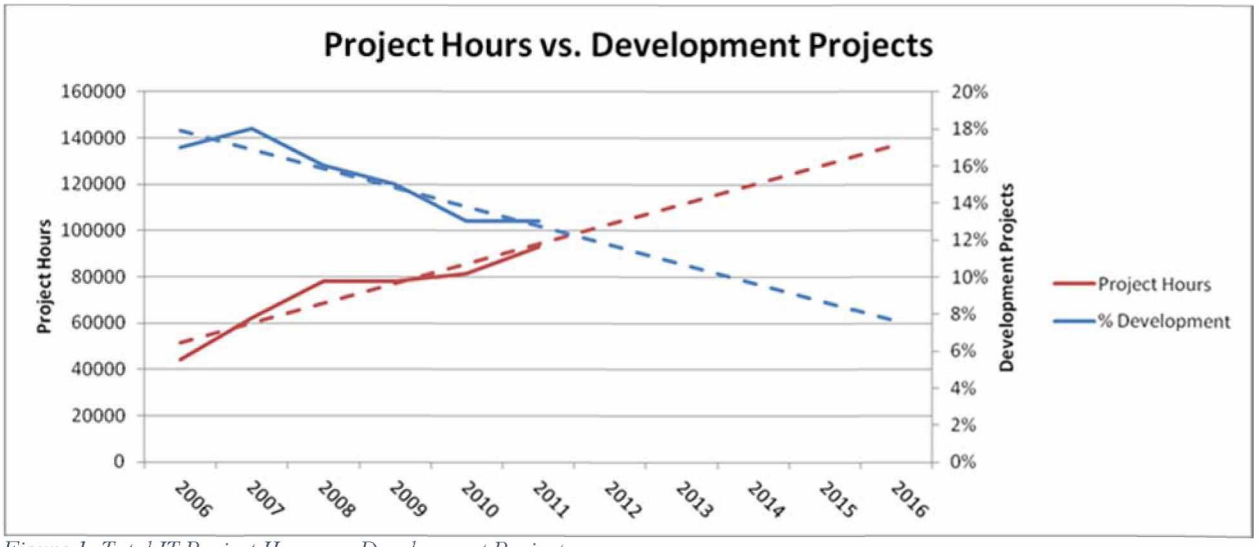

Figure 1- Total IT Project Hours vs. Development Projects

This project will focus on reducing the drain on IT resources relating to production support by researching other methods for organizing access to business analysts and proposing improvement to the business analysis process based on Best Practices. Currently, teams within IT are arranged in "silo" or vertical structures with resources permanently assigned to specific teams. In

addition, lack of standardized processes within the business analysis process, leads to inconsistent results. By reviewing team organization and researching and applying best practices to the business analysis process within IT, the organization may reduce the amount of time resources spend on production support, increase availability of resources for completing the Operating Plan and contributing to the success of the Enterprise Business Plan.

Interviews with business analysts, programmers, supervisors, managers and executives will be performed to identify areas of concern, analyze causes and produce a SWOT analysis on the data. In addition, data obtained from the organization's project request system will be used to determine current resource hours charged to development and support projects.

A business proposal for the redesign of the business analysis process will be created based on the finding of this research project. This recommendation will address whether business analysis resources should be dedicated to a specific team or organized as a pool available across all teams. Best practices will be researched for those areas identified as contributing to the high number of resource hours spent on support issues and changes to processes for those target areas will be recommended.

2. PROJECT MANAGEMENT APPROACH

The Project Manager has the overall authority and responsibility for managing and executing this project according to this Project Plan and its Subsidiary Management Plans. The project team will consist of a Project Sponsor, volunteers from the IT Department of the subject financial institution and the advisory team from the MSPM program and the University of Alaska-Anchorage. The Project Manager will work with all resources to perform project planning. All project and subsidiary management plans will be reviewed and approved by the Project Sponsor and Project Committee.

The Project Manager is responsible for ensuring that Stakeholders, team members and committee tasks are carefully coordinated with them to ensure that their regular work schedules are not impacted.

3. PROJECT SCOPE STATEMENT

This project is being undertaken to research possible causes of the disproportionate number of resource hours that are spent on unexpected day-to-day issues. Data will be collected from interviews with staff and management from the IT department to identify potential causes of the resource drain from development projects, and to apply best practices to the organizational structure and departmental processes and procedures. Best Practices will be applied to identified issues relating to business analysis within the IT department.

The organization currently experiences a large number of quality issues that are found after the products are implemented rather than during development and test. This situation results in rework costs, shortage of resources for strategic initiatives and employee morale and customer satisfaction issues.

Research will be conducted to assess the status quo, investigating alternative methods for assigning business analysis resources, interviewing Stakeholders, analyzing the data, and researching best practices for identified issues surrounding the business analysis process.

- The current vertical or "silo" team structure will be analyzed and a SWOT analysis conducted using inputs from interviews with team members at all levels of the department.
- A cause and effect diagram will be prepared and a "Pareto" analysis of the causes will be produced.
- A cross-organizational approach for provision of business analysis services will be examined.
- Current work flow will be reviewed and analyzed.
- Production support hours versus development hours of the IT staff will be analyzed using data obtained from the organization's Project Request System.
- Best practices and other IT organizations' methodologies will be researched.

The project will deliver to the project sponsor a Business Proposal containing recommendations for changes along with supporting documentation, such as organizational charts, revised processes and procedures and tools and techniques identified as beneficial to reducing the percent of IT resource hours spent on production support. It will also include a cost/benefit analysis of the proposed improvements and a transition plan based on a gap analysis.

The project is targeted for completion by May 2015. Since this project is being performed on a volunteer basis and no expenses anticipated, there is no monetary budget.

3.1. LIMITATIONS AND EXCLUSIONS

This project will be limited to researching and recommending changes to the business analysis structure and processes within the IT department of the financial institution. It will not include other possible drivers including but not limited to factors such as employee turnover, changing project priorities, compliance issues, network issues or rapid organizational change.

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4. MILESTONE LIST

The chart below contains major project milestone to provide a brief overview of various phases of the project. The full list of tasks will be included in the project schedule and Work Breakdown Structure (WBS). The Project Manager is responsible for monitoring and controlling the project schedule. Any changes will be reviewed using the change management process and any approved changes to these milestones or dates will be communicated to the project team by the Project Manager.

Milestones	Estimated Completion Timeframe
IRB Approval	November 21, 2015
Project Management Plan Approval	November 26, 2015
Perform interviews	December 30, 2014
Complete Data Analysis	January 26, 2015
Perform SWOT Analysis of Cause/Effect	January 28, 2015
Design Proposed Process Changes	February 6, 2015
Perform Cost Benefit Analysis	March 17, 2015
Deliver Business Proposal for Approval to Project Sponsor	April 8, 2015

5. PROJECT SCOPE MANAGEMENT PLAN

Scope management for the Project will be the responsibility of the Project Manager. The scope for this project is defined by the Scope Statement and Work Breakdown Structure.

5.1. SCOPE MANAGEMENT APPROACH

For this project, scope management will be the sole responsibility of the Project Manager. The scope for this project is defined by the Scope Statement and Work Breakdown Structure. The Project Manager will manage the scope by using the Requirements Traceability Matrix and a Change Management Process to ensure that all requirements are tracked through the life of the project, and that any requests for changes are properly analyzed, an impact analysis performed and action taken by the Change Control Board. Proposed scope changes may be initiated by the Project Manager, Project Sponsor or Stakeholders. Additional details are provided in the Change Management section. (Section 7)

5.2. SCOPE DEFINITION

The scope for this project will be defined by a comprehensive requirements collection process. The current business analysis process and the vertical structure for the business analysis resource allocation will be researched. Interviews will be conducted from a cross

section of the IT teams to identify areas for possible improvement. From the data collected during interviews, a cause and effect study will be performed, and a Pareto diagram created. This data will be further analyzed and results presented using a SWOT analysis.

5.3. SCOPE DESCRIPTION

This project will analyze current business analysis procedures within IT with focus on the current team structures and processes and procedures. Research will be performed to identify how performance might be improved by making the business analysis resources available across all teams and having standardized, repeatable processes for business analysis. Current processes will be documented, using organization charts, IT Procedures manual, IT Project Request System data and interviews with all levels of staff within the IT department. Data analysis, including cause and effect analysis and SWOT analysis will be performed to identify key areas to be targeted for possible changes. Best Practices and other organizations' experiences will be researched to assist in the development of a recommendation to revise processes with the goal of improving the effectiveness of the Business Analysts role and the hope of decreasing the time IT resources spend on support and potentially increasing resource availability for key organizational initiatives.

The scope of this project includes all research and analysis, requirements gathering, planning, design, and development to produce a recommendation for changes to the business analysis process. The recommendation may include revising team structure, resource allocation, processes and procedures, tools and techniques and training programs.

5.4. HIGH LEVEL REQUIREMENTS

The following high level requirements have been identified for the Reorganizing Business Analysis in an IT Environment:

- Deliver a Business Proposal with supporting documentation detailing recommendations for reorganizing the business analysis process
    - Recommend whether business analysis services should continue to be allocated in the current dedicated resource model or using some other allocation model.
    - Identify possible areas of business analysis process that could reduce the need for production support hours by IT staff
    - Provide recommended changes to the identified processes
    - Identify top areas of focus using SWOT analysis and Cost Benefit Analysis

5.5. BOUNDARIES AND EXCLUSIONS

This project includes all work associated with researching, planning, designing, and recommending changes to the business analysis process. This includes requirements

gathering, interviewing IT volunteers, creating conceptual designs and performing data analysis to support the recommendation, and provide examples of recommended tools and techniques when applicable. This project will not develop a prototype of the design or provide an implementation plan.

5.6. STRATEGY

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Research of possible resource allocation of business analysis services will be performed to determine if it would be beneficial to move services from the current methodology of dedicated resources on each team to a more effective model, such as cross-team allocation. Interviews of IT staff will be performed. Analysis of the data will be used to identify areas within the business analysis process that contribute to the drain of resources to support production issues. Once areas needed improvement are identified, SWOT analysis and best practices will be used to formulate possible solutions.

5.7. DELIVERABLES

This project will deliver a Business Proposal to make changes to the business analysis processes within the IT department with the goal of decreasing the resource hours required for supporting production issues and possibly increasing availability of resources for the Op Plan initiatives. This proposal will review possible changes including:

1. Business Analysis Resource Allocation
2. Updates to the business analysis process
3. Tools and Techniques to support changes
4. Business analysis training plan

5.8. ACCEPTANCE CRITERIA

Acceptance criteria have been established to ensure thorough vetting and successful completion of the project. The following acceptance criteria must be met in order to achieve success for this project:

1. Following review of the recommendation for reorganizing business analysis the Project Sponsor agrees to consider this recommendation as a possible solution to increase the availability of IT resources for development projects.

5.9. CONSTRAINTS

The following constraints have been identified for Reorganizing Business Analysis in an Information Technology department:

1. Subject Matter Experts (SMEs) will be working on a voluntary basis
2. Scheduling must be done at the convenience of participants
3. Some of the resources that perform business analysis are resistant to change

4. Periodic reviews of finding will need to be done to ensure buy-in from Stakeholders
5. Project must be completed by close of business on April 6, 2015

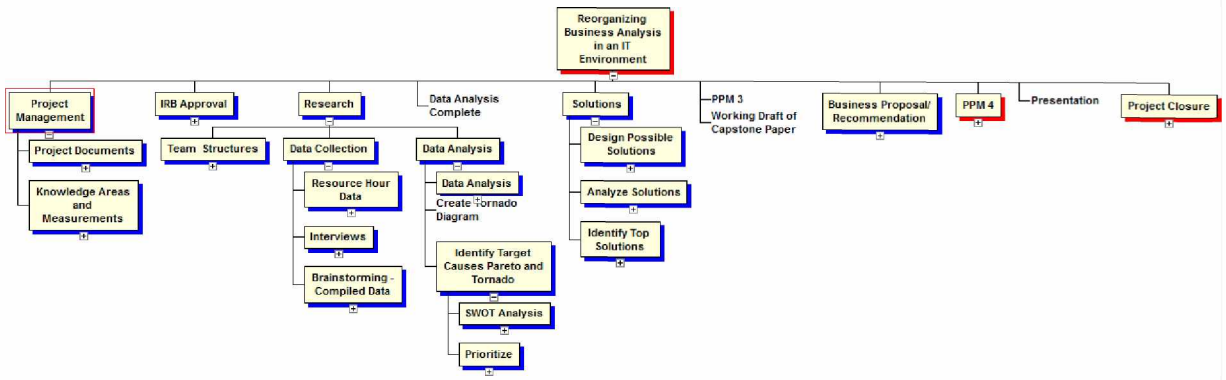
5.10. ASSUMPTIONS

Several assumptions have been identified for this project. During the project planning cycle every effort must be made to identify and mitigate any risk associated with the following assumptions:

1. Project Request System (PRS) will contain appropriate data to perform analysis on production support and product development hours
2. All teams within IT will be able to implement consistent procedures and not require unique solutions for specific teams
3. IT Management is aware of the need for improvements and will be receptive to sharing their visions with the Project Manager
4. All teams within IT will be willing to participate in interviews and focus groups

5.11. WORK BREAKDOWN STRUCTURE

The Work Breakdown Structure (WBS) below provides the project deliverables and work packages for the Reorganizing Business Analysis in an IT Environment.



5.12. SCOPE VERIFICATION

As this project progresses the Project Manager will verify interim project deliverables against the original scope as defined in the scope statement and Work Breakdown Structure. Once the Project Manager verifies that the scope meets the requirements defined in the project plan, the Project Manager and Sponsor will meet for formal acceptance. The Project Sponsor will accept the deliverable by signing a project deliverable acceptance document. This will ensure that project work remains within the scope of the project on a consistent basis throughout the life of the project.

5.13. SCOPE CONTROL

The Project Manager and the Advisory Committee will work together to control the scope of the project. The Project Manager will oversee the project team and the progression of the project to ensure that this scope control process is followed.

If a change to the project scope is needed the process for recommending changes to the scope of the project must be carried out. All change requests must be submitted to the Project Manager in the form of a project change request document. Scope will be managed through the Change Control Process detailed in the Change Control Process in Section 7.

6. REQUIREMENTS MANAGEMENT PLAN

6.1. INTRODUCTION

Requirements will be obtained from focus groups and individual interviews with IT staff to identify strengths and weaknesses of the current process and how these impact IT resources and day-to-day production support issues.

6.2. REQUIREMENTS MANAGEMENT APPROACH

The approach for gathering requirements will utilize the following methodology: data gathered as a result of interviews and focus groups, a "cause and effect" analysis using a Pareto diagram, a SWOT analysis and research on resource allocation for business analysis.

Once requirements have been identified and analyzed, they will be documented and added to the Requirements Traceability Matrix

The Project Manager will ensure that all requirements are recorded and will pursue clarification on unclear requirements. As the project progresses requirements may be added or changed in some way. The Project Manager must follow the established change control process in order to propose any changes to requirements and receive approval from the Change Control Board.

6.3. REQUIREMENTS TRACEABILITY MATRIX

The requirements traceability matrix for Reorganizing Business Analysis in an IT Environment is detailed below. This matrix provides a thread from all product requirements through user acceptance. Any approved changes in project scope or requirements will result in changes to the traceability matrix below. An impact analysis will be performed and based on impacts of the approved changes, the Project Manager will make the necessary changes to the matrix and communicate those changes to all project Stakeholders.

Requirements Traceability Matrix

Requirement #	Source (Stakeholder Name or Group, Reference Document, etc.)	Stakeholder Register Reference	Requirement Description	Requirement Classification (business, functional, regulatory, etc.)	Project Objective Reference	Priority H,M.L	WBS Work Package Reference	Impact	Acceptance Criteria	Risk Register Reference	Key Dependencies, Impacts, Constraints	Owner
1	WBS	1	Develop Interview Questions	business		H	15					SD
2	WBS	1	Schedule Interviews	business		H	16			5		SD
3	WBS		Perform Interviews and Focus Groups	business		H	17					SD
4	WBS	1	Record Interview Results	business		H	19, 20					SD
5	Scope	1	Perform Cause and Effect Analysis	business		H	63					
6	Scope	1	Create Pareto Diagram	business		H	63					
7	Scope	18	Perform SWOT Analysis	business		H	64					
8	WBS	1	Prioritize Issues Identified by Analysis for possible changes	business		H	65					

Requirements Traceability Matrix

Requirement #	Source (Stakeholder Name or Group, Reference Document, etc.)	Stakeholder Register Reference	Requirement Description	Requirement Classification (business, functional, regulatory, etc.)	Project Objective Reference	Priority H,M.L	WBS Work Package Reference	Impact	Acceptance Criteria	Risk Register Reference	Key Dependencies, Impacts, Constraints	Owner
9	Scope	1	Breakout project hours by production support vs product development	business		H	22			3		SD
10	WBS	1	Identify production support hours related to product development processes	business		H	23					SD
11	Scope Document	1	Research Best Practices for Software Product Development	business		H	31					SD
12	Scope Document	2	Research Successful Organizations Processes and Procedures	business		H	32					SD
13	Scope Document	2	Identify causes of Production Support hours	business		H	23					SD
14	Scope	1	Research vertical vs horizontal team structures	business		H	32					
15 `	Scope	1	Research options for resource allocations of business analysis resources	business		H	32					

6.4. REQUIREMENTS PRIORITIZATION PROCESS

The Project Manager will work with the Stakeholders to ensure that the requirements are refined and clarified, and priorities assigned, based on feedback from the Project Sponsor and Stakeholders, using results of the Cause and Effect analysis and SWOT analysis.

Priority Level	Definition
High	These requirements are mission critical. They are required for project/product success or for progression to next project phase
Medium	These requirements support product/process operations but can be completed under the next product release
Low	These requirements are quality and/or functional enhancements and are not desirable if time and resources permit

As the project moves forward and additional constraints are identified or there are issues with resources, it may be necessary for the Project Manager to meet with the Change Control Board and Project Sponsor to determine what requirements must be achieved, which can be re-base-lined, or which can be excluded. These determinations will be made based on the priorities of the requirements and which level they are assigned in accordance with the chart above. As any changes in requirements are made, all project documentation must be updated in the Change Log, Requirements Traceability Matrix and other project documents by the Project Manager.

7. CHANGE MANAGEMENT PLAN

The steps involved in the Project Management Plan for this project is outlined below.

Step	Description	Action	Actor
1	Identify need for change	Submit Change Request to Project Manager	Any Stakeholder
2	Record request	Log request in Change Request Log	Project Manager
3	Evaluate the change request	Conduct impact analysis on Risk, Schedule, Cost and Scope	Project Manager
4	Determine Disposition of Request	Review findings, evaluate all effects on project	Project Manager

Step	Description	Action	Actor
5	CR Approved	If approved update all affected documents with decision and implement change, notify team and Stakeholders	Project Manager
6	CR Rejected	Update Change Control Log with Decision and notify team and Stakeholders of decision	Project Manager

Any team member or stakeholder may submit a change request (Appendix A) for this project to the Project Manager. The Project Manager will log all requests in the change control log (Appendix A) and track requests through to completion whether approved or not.

7.1. CHANGE MANAGEMENT APPROACH

The Change Management approach for the Reorganizing Business Analysis in an IT Organization will provide a methodology to ensure all proposed changes are defined, reviewed, and acted upon so they can be properly implemented and communicated to all Stakeholders. This approach will provide protection against implementing changes that are outside of the scope of the project.

The Change Management approach consists of three areas:

- Ensure changes are within scope and beneficial to the project
- Determine how the change will be implemented
- Manage the change as it is implemented

7.2. CHANGE CONTROL BOARD

The Change Control Board (CCB) is the approval authority for all proposed change requests pertaining to the Project. The purpose of the CCB is to review all change requests, determine their impacts on the project risk, scope, and schedule, and to approve or deny each change request. For this project, the Project Manager will be a single point of contact and responsible for researching and analyzing all change requests and determining the disposition of each request.

As change requests are submitted to the Project Manager by the project team/Stakeholders, the Project Manager will log the requests in the change log (Appendix A) and the Project

Manager will perform analysis on the request to determine its effect on all aspects of the project. The Project Manager will seek feedback from stakeholders and subject matter experts as needed and make a determination on the disposition of the request within five business days.

7.3. CHANGE CONTROL PROCESS

The Change Control Process for the Reorganizing Business Analysis in an IT Environment Project will follow the change process detailed in this document. The Project Manager has overall responsibility for executing the change management process for each change request.

1) Identify the need for a change (Stakeholders, Team & Project Sponsor) – Change requestor will submit a completed change request form to the Project Manager.
2) Log change in the change request register (Project Manager) – The Project Manager will keep a log of all submitted change requests throughout the project's lifecycle.
3) Evaluate the change (Project Manager, Team, and Requestor) – The Project Manager will conduct a preliminary analysis on the impact of the change to risk, cost, schedule, and scope and seek clarification from team members and the change requestor.
4) Make Decision on change request (Project Manager) – The PM will review the proposed change and decide whether or not the Change Request will be approved based on all submitted information and findings from the analysis.
5) Disposition of the Change Request will be recorded in the Change Control Log (Project Manager) and all appropriate documents will be updated.

8. STAKEHOLDER MANAGEMENT PLAN

The Stakeholder Management Plan will be used to gather all information regarding stakeholder identification, their significance to the project, their level of interest and impact on the project. The template can also be used for stakeholder communication management as well.

8.1. STAKEHOLDER MANAGEMENT PLAN

Stakeholder Register Template																				
	Identification Information					Assessment Information (Their project requirements and expectations)					Classification (Their relationship to and ability to impact project)					Communication (How they like to be communicated with)				
	Organization	Position/Title	Location	Role	Contact Information	Major requirements	Measures of Success	Expectations	Primary Concerns	Other helpful info	Classification (e.g. P/I, P/I, I/I, Salience, etc.)	Current Level of Support	Desired level of support	Key influencers /relationships	Other helpful info	Mode	Frequency	Level of detail	Format	Other helpful info
Internal Stakeholders																				
Sue Dulaney	The Subject Organization	Sr. Business Systems Analyst	Electronic and Card Applications	Project Manager	X 2171															
Mike Brady	The Subject Organization	Vice President, IM Governance	Information Management	Project Sponsor	X 2347	Rework BA structure; cross team availability ; standardized processes		Improve business analysis; increase resources for dev. projects			Interested Influencer	Med	Med	Board, CIO, COO		Email	Weekly	High	Email	
John Shipe	The Subject Organization	CIO	Management Information Systems	Stakeholder	X 2994	Increase resource availability		Complete annual project initiatives on time												
Mike Longlet	The Subject Organization	Senior Vice President, IM Applications	Information Management	Stakeholder	X 2700	Increase resource availability		Improve vendor selection process												
Tim Mielak	The Subject Organization	Applications Group Manager	Information Management	Stakeholder	X 2168	Reduce number of trouble tickets opened and support hours		Time to do more cutting edge projects												
Mike O'Reilly	The Subject Organization	Applications Group Supervisor	Information Management	Stakeholder	X 6335	Reduce time spent on re-working program code														

Stakeholder Register Template

	Identification Information					Assessment Information (Their project requirements and expectations)					Classification (Their relationship to and ability to impact project)					Communication (How they like to be communicated with)				
	Organization	Position/Title	Location	Role	Contact Information	Major requirements	Measures of Success	Expectations	Primary Concerns	Other helpful info	Classification (e.g. P/I, P/I, I/I, Salience, etc.)	Current Level of Support	Desired level of support	Key influencers /relationships	Other helpful info	Mode	Frequency	Level of detail	Format	Other helpful info
Cameron Taylor	The Subject Organization	Programmer Analyst III	Information Management	Stakeholder	X 2176											face to face				
Bill Pollard	The Subject Organization	Sr. Programmer Analyst	Information Management	Stakeholder	X 2758											face to face				
Ian Keating	The Subject Organization	Sr. Programmer Analyst	Information Management	Stakeholder	X 2167											In person or email				
Tracey Seidel	The Subject Organization	Sr. Business Systems Analyst	Information Management	Stakeholder	X 2508											face to face or phone				
Marcella Knowlton	The Subject Organization	Applications Group Supervisor	Information Management	Stakeholder	X 2566											In person or email				
Cindy Deats	The Subject Organization	Sr. Business Systems Analyst	Information Management	Stakeholder	X 2571											In person or email				
Eric Buring	The Subject Organization	Business Systems Analyst II	Information Management	Stakeholder	X 6619											face to face				
Angie Bryan	The Subject Organization	Sr. Business Systems Analyst	Information Management	Stakeholder	X 2589											face to face				
Steph Enders	The Subject Organization	Sr. Business Systems Analyst	Information Management	Stakeholder	X 3945											Face to face				
Charity Chamberlain-Reopelle	The Subject Organization	Business Systems Analyst II	Information Management	Stakeholder	X 6003											Prefers email				

Stakeholder Register Template

	Identification Information					Assessment Information (Their project requirements and expectations)					Classification (Their relationship to and ability to impact project)					Communication (How they like to be communicated with)				
	Organization	Position/Title	Location	Role	Contact Information	Major requirements	Measures of Success	Expectations	Primary Concerns	Other helpful info	Classification (e.g. P/I, P/I, I/I, Salience, etc.)	Current Level of Support	Desired level of support	Key influencers /relationships	Other helpful info	Mode	Frequency	Level of detail	Format	Other helpful info
External Stakeholders																				
LuAnn Piccard	UAA	PM Program Director	MSPM Office	Committee Member	786-1917 lpiccard@uaa.alaska.edu											Phone	Schedule Every Other Week	Status Summary Day Prior	Email	
Roger Hull	UAA	Instructor	MSPM Office	Committee Member	786-1923 rkhull@uaa.alaska.edu											Email, Office visits	As needed not less than weekly	Provide status; detail question	Email	Call before coming by office
Jim Bates	UAA	Adjunct Professor	MSPM Office	Committee Member	854-6790 jlbates@go-big.com											Email	As needed at least bi-weekly	Ask specific questions	Bullet in email	Phone when needed
Seong Dae Kim, Ph.D.	UAA	Associate Professor	MSPM Office	Committee Member	786-1922 sdkim2@uaa.alaska.edu															

8.2. STAKEHOLDER COMMUNICATION REQUIREMENTS

As part of identifying all project Stakeholders, the Project Manager will communicate with each stakeholder in order to determine their preferred frequency and method of communication. This feedback will be maintained by the Project Manager in the project's Stakeholder Register. Standard project communications will occur in accordance with the Communication Matrix; however, depending on the identified stakeholder communication requirements, individual communication is acceptable and within the constraints outlined for this project.

In addition to identifying communication preferences, stakeholder communication requirements must identify the project's communication channels and ensure that Stakeholders have access to these channels. If project information is communicated via secure means or through internal company resources, all Stakeholders, internal and external, must have the necessary access to receive project communications.

Once all Stakeholders have been identified and communication requirements are established, the project team will maintain this information in the project's Stakeholder Register and use this, along with the project communication matrix as the basis for all communications.

9. COMMUNICATIONS MANAGEMENT PLAN

The Project Manager will take the lead role in ensuring effective communications on this project. The communications requirements are documented in the Communications Matrix below. The Communications Matrix will be used as the guide for what information to communicate, who is to do the communicating, when to communicate it, and to whom to communicate.

9.1. COMMUNICATIONS MATRIX

The following table identifies the communications requirements for this project.

Communication Type	Objective of Communication	Medium	Frequency	Audience	Owner	Deliverable	Format
Kickoff Meeting	. Review project objectives and management approach.	• Face to Face	Once	• Project Sponsor • Stakeholders	Project Manager	• Agenda • Meeting Minutes	• Electronic
Project Committee Meetings	Review status of the project with the project committee. Email status two days prior	• Face to Face • Call	Bi-Weekly	• Project Committee	Project Manager	• Agenda • Meeting Minutes • Questions for Committee	• Electronic
Business Analysis Work Group (Focus Group)	Discuss and develop design solutions for the project.	• Face to Face • Conference Call	As Needed at least Monthly	• Stakeholders	Project Manager	• Agenda • Slide Updates • Meeting Minutes	• Electronic
Project Status Reports	Report the status of the project including activities, progress, costs and issues.	• Email	Bi-Weekly	• Project Sponsor • Project Team • Stakeholders • Project Committee	Project Manager	• Project Status Report • Project schedule	• Electronic

9.2. PROJECT TEAM COMMUNICATION DIRECTORY

Role	Name	Title	Organization/ Department	Email	Phone
Project Sponsor	Mike Brady	VP of Governance	IT	m.brady@alaskausa.org	X 2347
Project Manager	Sue Dulaney	Project Manager	IT	c.dulaney@alaskausa.org	X 2171
Project Advisor	Roger Hull	See Stakeholder Register	UAA	rkhull@uaa.alaska.edu	786-1923
Project Committee	LuAnn Piccard	MSPM Director	UAA	lpiccard@uaa.alaska.edu	786-1917
Project Committee	Jim Bates	Adjunct Professor	UAA	jlbates@go-big.com	854-6790
Additional Project Stakeholders	See Stakeholder Register	See Stakeholder Register	See Stakeholder Register	See Stakeholder Register	See Stakeholder Register

9.3. COMMUNICATION ESCALATION PROCESS

Efficient and timely communication is the key to successful project completion. As such, it is imperative that any disputes, conflicts, or discrepancies regarding project communications are resolved in a way that is conducive to maintaining the project schedule, ensuring the correct communications are distributed, and preventing any ongoing difficulties. In order to ensure projects stay on schedule and issues are resolved, the Project Manager will use an escalation model to provide a framework for escalating communication issues. The table below defines the priority levels, decision authorities, and timeframes for resolution.

Priority	Definition	Decision Authority	Timeframe for Resolution
Priority 1	Major impact to project. If not resolved quickly there will be a significant adverse impact to quality or schedule	Primary Advisor	Within 4 hours
Priority 2	Medium impact to project which may result in some adverse impact to quality and/or schedule.	Project Sponsor	Within one business day
Priority 3	Slight impact which may cause some minor scheduling difficulties with the project but no impact to quality	Project Manager	Within two business days
Priority 4	Insignificant impact to project but there may be a better solution.	Project Manager	Work continues and any recommendations are submitted via the project change control process

10. COST MANAGEMENT PLAN

The Reorganizing Business Analysis in an IT Environment Project will have no project budget. All resources, including the Project Sponsor, the Project Manager, the MSPM Committee and the project team members and Stakeholders are all volunteers.

In the event that expenses are incurred and a project budget becomes necessary, the Project Manager will work with the Project Sponsor and the MSPM Committee to obtain funding.

11. PROCUREMENT MANAGEMENT PLAN

The Reorganizing Business Analysis in an IT Environment Project will not require to procure any supplies or services, the Project Manager will work with the project team in the event goods or services are needed.

In the event procurement becomes necessary, the Project Manager will be responsible for management of any selected vendor or external resource. The Project Manager will also measure performance as it relates to the vendor providing necessary goods and/or services.

12. PRODUCT METRICS

This project will use a Cost Benefit Analysis to determine the best strategy for reorganizing the business analysis process. Other metrics and analysis methods will be used in the execution of the project, including a Pareto Analysis and a SWOT analysis.

13. SCHEDULE MANAGEMENT PLAN

The Project Manager will be responsible for d work developing work package definition, sequencing, and estimating duration and resources with the project team. The Project Manager will also create the project schedule using MS Project. The Project Manager will obtain schedule approval from the project committee and baseline the schedule. Any changes to the schedule will require a Change Request and will be put through the Change Control Process, and subject to the approval of the Change Control Board.

14. QUALITY MANAGEMENT PLAN

The Project Manager will review all project tasks and deliverables to ensure compliance with established and approved quality standards, and provide a status report to the Project Committee and Project Sponsor. Additionally, the Project Sponsor will sign off on the final acceptance of the project deliverable.

The Project Manager is also responsible for communicating and tracking all quality standards to the project team and Stakeholders.

ID	Critical Success Criteria	Potential Quality Metric	Priority	Metric Target	Action Plan
1	Stakeholder support	Stakeholder attendance at scheduled meetings (individual and group meetings, including interviews and status meetings)	H	70% participation	Make meetings brief and provide incentives for attendance. Get buy in from Stakeholders.
2	Risk Identification	Perform metrics for: Identified Risks: Not Realized Identified Risks: Realized Unidentified Risks: Realized	H	Anticipate 80% of risks that occurred. Less than 10% of realized risks should be unidentified risks	Add unidentified risks to Lessons Learned.
3	Meeting deliverable schedule	Keep deliverables on schedule	H	At least 90% of deliverables on time	Add time to work schedule or add additional resources to keep project on track

15. RISK MANAGEMENT PLAN

Every attempt will be made to identify risks during the initiation and planning phase, identify ways to mitigate risks when possible, and have response strategy provided if the risk occurs. Risks will be ranked by evaluating the 'likelihood' that they will occur and the impact that they will have on the project if they occur. The Project Manager should ensure that they identify and address the high impact, most likely risks to occur, and ensure that these are mitigated as much as possible. The Project Manager will monitor risks and provide status updates to the project sponsor and project advisor during status meetings as required.

Upon the completion of the project, during the closing process, the Project Manager will analyze each risk as well as the risk management process. Based on this analysis, the Project Manager will identify any improvements that can be made to the risk management process for future projects. These improvements will be captured as part of the lessons learned knowledge base. Risk that occurred but were not identified prior to the event, will be detailed in Lessons Learned.

15.1. RISK REGISTER

The following risks have been identified. Stakeholders are a key component for the success of this project, and as such many of the risks surround them.

Risk Identification							Risk Analysis				Response Planning			Risk Monitoring and Control		
Risk ID	Risk Category	Trigger Point	Potential Outcome	Raised By	Date Raised	Source	Impact	Prob-ability	Matrix Score	Qualitative Impact	Risk Strategy	Response Notes/Plan	Owner	Status	Trigger Date	Notes
1	Tech - Scope	Interview Process	There is a risk that the scope becomes unmanageable due to business analysis roles and business processes varying by team	SD	10/03/14	Other	0.4	0.5	0.20	Impact on schedule with need for multiple workflow options	Mitigate	Research Best Practices to find solutions that offer flexibility in process workflow for instances of divergent practices, but standardized where possible.	SD	Analysis Complete		
2	Org - Project Dependencies	Recruitment of participants for interviews and focus groups	There is a risk that Management will not support examination and analysis of organization processes	SD	10/17/14	Stakeholder	0.4	0.5	0.20	Valuable information can be missed if a good cross section of the department doesn't participate	Mitigate	Explain project intent and provide overview of benefits. Stress positive aspects of project to department,and get buy in from execs	SD	Triggered	1/12/`5	Execs required review of all materials and list of all employees to be contacted. Contact # had to be reduced from 1/2 of staff (40) to less than 20. Narrowed down contact field to 16. Key individuals, maintaining good cross section. Gained approval of sponsor and management
3	PM - Communication	Low response to recruitment attempts by prospective interviewees	There is a risk that IT staff will be unwilling to participate in interview and focus groups	SD	10/10/14	Stakeholder	0.4	0.5	0.20	Valuable information can be missed if a good cross section of the department doesn't participate	Mitigate	Stress the value of the project at a personal and organizational level. Assure privacy and confidentiality.	SD	Planning Complete		Mitigation approach and Exec support appear to have aided in willingness of prospecitve participant. Recruited and Interviewed 13 of 16 prospects in initial recruitment. Follow up required with < 20%
4	Tech - Technology	Data retrieval from PR system	There is a risk that will be unable to download data from the organization Project Request System to update the statistics regarding %hours spent on development	SD	10/10/14	Other	0.2	0.3	0.06	Require manual retrieval impact schedule and resource hours and possibly inaccurate data	Mitigate	Discuss with database techs and ensure data is available Request permission of sponsor to have assistance with retrieval	SD	Planning Complete		
5	Org - Resources	Scheduling Interviews	There is a risk that participants will not be available to participate in interviews during their work hours	SD	10/30/14	Stakeholder	0.2	0.5	0.10	Key information may be	Mitigate	Work with potential participants to schedule when available, and keep time to a minimum	SD	Resolved		Management approved of employees being interviewed during regular work hours and supported aggressive interview timelines.
6	PM - Communication	Data Analysis	There is a risk that answers to interview questions will not provide requirements	SD	11/21/14	Stakeholder	0.4	0.3	0.12	Weak ineffective requirements due to missing real issues	Mitigate	Use quality metrics to evaluate if answers are generating requirements. Use focus groups and Ishikawa to elicit effective responses after each round of interviews	SD	Planning Complete		Initial review of responses in progress for data received. Questions were reviewed and refined as interviews progressed.

16. STAFFING MANAGEMENT PLAN

The Project will consist of a team of volunteers from the financial institution studied in this business case and staff from the MSPM program at the University of Alaska Anchorage.

The roles and responsibilities for the Project Manager, the Primary Advisor and the Committee Members is provided below:

Area of Responsibility	Sue Dulaney	Roger Hull	LuAnn Piccard Jim Bates	Instructor of Record (IOR) and Admin Staff
Project Management	**PRIMARY OWNER**	Coaching, feedback and assessment	Coaching, feedback and assessment input	LuAnn Piccard and Staff
Communication and Stakeholder Management	• Clear description of project • Proactive selection of Advisor and Committee members • Demonstrate effective communication and stakeholder management by determining and coordinating necessary and agreed modes and setting expectations for timing, and emphasis or tailoring of feedback and communication across with PA and committee (and other Stakeholders) • Provide regular status reports as agreed with PA and committee	• Email confirmation of agreement to serve • Availability as agreed	• Email confirmation of agreement to serve • Availability as agreed	• Faculty specialties matrix • Session Lectures • Syllabus • Blackboard materials • Announcements • AV set up • Final presentation schedule and logistics • Student and committee support as requested • Adjunct Faculty appointment letters • Escalation path

Area of Responsibility	Sue Dulaney	Roger Hull	LuAnn Piccard Jim Bates	Instructor of Record (IOR) and Admin Staff
	• Identify and resolve communication issues • Identify, balance and resolve contradictory inputs • Discuss and get signatures for "Expectations" from student, advisor and committee members and submit to PM office.			
Project Deliverables	• Complete work per syllabus • Incorporate feedback from PA, committee and Stakeholders			
Feedback	• Determine type, timing and format of feedback from PA and committee • Solicit, coordinate and integrate feedback from Stakeholders, PA and committee for PPMs and final project deliverables • Identify, balance and resolve	Provide agreed feedback on timely basis	Provide agreed feedback on timely basis	

Area of Responsibility	Sue Dulaney	Roger Hull	LuAnn Piccard Jim Bates	Instructor of Record (IOR) and Admin Staff
	contradictory inputs			
Final Presentation	• Prepare • Present	• Attend • Provide Feedback	• Attend • Provide Feedback	• Coordinate schedule and logistics
Assessment and Grading		• Coordinate input from committee for 4 PPMs and final project deliverables • Assignment of PPM scores • Provide scores to IOR • Go/No checkpoint recommendation • Assign final grade	Provide input to primary advisor for: 4 PPMs Final deliverables Go/No checkpoints	• Input 4 PPMs and final deliverables scores to Blackboard • Ensure consistency across students • Communicate go/no-go decisions to students • Input final grade to UA Online
Administrative Documents	• GSP preparation and submission to PM Office • Signed Expectations agreement • IRB submittal (686A) • Apply for graduation (686B) • RSVP for Hooding and commencement (686B)			• Graduate Studies Plan (GSP signatures and processing • Include signed "Expectations" form in student file. • DF paperwork and annual progress report for students • Graduation Audit • Graduation Requirement Report (GRR) • Archive final project deliverables

17. COST BASELINE

A Cost Baseline is not required for this project, since all work will be done by volunteers, there is no procurement needed, and the project has no budget.

18. APPLICATION OF KNOWLEDGE AREAS

As part of this project, the application of Project Management Knowledge Areas will be applied and their performance measured. The plan for application and measuring performance is provided in the following table.

Knowledge Area	Priority	Performance Metric	Metric Target	Responses
Scope Management	H	Number of review cycles it takes to get requirements sign-off by Project Sponsor	No more than four review cycles	If more than four cycles required to gather requirements, review how requirements were gathered and document issues in lessons learned.
	H	Calculate the % of change requests opened because of missed requirements.	< 20% per weekly reporting cycle	
	M	Calculate the % of change requests opened because of a change of direction by stakeholders and sponsor.	< 20% per weekly reporting cycle	
	M	Quantity of Change Request	< 2 per weekly reporting cycle	
Quality Management	H	Did project requirements provide a possible solution	Yes, per review by Project Sponsor	If no, analyze the process and how it could have been more effective Add to lessons learned.
	H	Were the interview questions effective?	> 60 % of responses led to requirements (green) >40 % of responses led to requirement (yellow) < 30 % of responses led to requirement (red)	Lessons Learned: Was there better way to word questions? Improve Questions during process.
Risk Management	H	% of Identified Risks that Occurred	< 10 % good mitigation (green) <30 % questionable mitigation (yellow) >40% poor mitigation (red)	Lessons Learned: Was there better way to mitigate risk?
	H	% of Risk Events that were not identified	< 20% of realized risks unidentified	Lessons Learned & Add to Risk Register for next similar project
	M	% of Identified Risks where risk response from Risk Matrix failed	< 10 % good mitigation (green) <30 % questionable mitigation (yellow) >40% poor mitigation (red)	Add Actual Response to the Risk Register and evaluate why proposed response was not appropriate
Stakeholder Management	H	Stakeholder attendance at scheduled meetings (individual and group meetings, including interviews and status meetings)	< 70% participation Good < 50% participation Fair <30 % participation Poor	Make meetings brief and provide incentives for attendance. Get buy in from stakeholders. Use email to keep informed to avoid interfering with work.
	H	Meet delivery requirements for status reports to Project Committee members and Project Sponsor	>90% on time excellent (green) >80% on time fair (yellow) <80% on time poor (red)	Track issues with meeting deadlines and record in lessons learned. Find strategies to resolve.

19. SPONSOR ACCEPTANCE

Approved by the Project Committee:

_____ Date: _____

Roger Hull
Primary Advisor

APPENDIX A – CHANGE REQUEST FORM AND CHANGE LOG

Change Request Form

SUBMITTER - GENERAL INFORMATION				
CR#				
Submitter Name				
Brief Description of Request				
Date Submitted				
Date Required				
Priority	☐ Low	☐ Medium	☐ High	☐ Critical
Reason for Change				
Other Artifacts Impacted				
Assumptions and Notes				
Attachments or References	☐ Yes	☐ No		
	Link:			
INITIAL ANALYSIS				
Hour Impact				
Duration Impact				
Schedule Impact				
Comments				
Recommendations				
PROJECT MANAGER(C9CB) REVIEW - DECISION				
Decision	☐ Approved	☐ Approved w/Conditions	☐ Rejected	☐ More Info
Decision Date				
Decision Explanation				
Conditions				

CHANGE MANAGEMENT LOG

Project Name:	Reorganizing Business Analysis in an IT Environment
Project Manager Name:	C. Sue Dulaney, PM
Project Description:	Recommend approach to reorganize the business analysis process within a financial institution's IT department using team member interviews and research of best practices

ID	Current Status	Priority	Change Request Description	Assigned To Owner	Expected Resolution Date	Escalation Required (Y/N)?	Action Steps	Impact Summary	Change Request Type	Date Identified	Assoc ID	Entered By	Actual Resolution Date	Final Resolution & Rationale
	Open	Critical	**EXAMPLE:** Request for product functionality increase			Yes	**EXAMPLE:** Analyze impact of requested change and then meet with the change control board (CCB) to present findings for final decision on the requested change	**EXAMPLE:** Project scope, schedule, resources, and potentially budget may all be impacted	Product	01/01/06				**EXAMPLE:** The CCB has approved the change
	Work In Progress	High	**EXAMPLE:** The schedule slipped due to unexpected weather related events			No	**EXAMPLE:** Adjust the schedule to account for the weather related events	**EXAMPLE:** Project schedules, resources, and possibly budget may all be impacted	Project	01/01/06				**EXAMPLE:** Updated schedule reviewed and approved
	Closed	Medium							Other					
		Low												
1														
2														
3														
4														
5														
6														

CHANGE MANAGEMENT LOG

Project Name:	Reorganizing Business Analysis in
Project Manager Name:	C. Sue Dulaney, PM
Project Description:	Recommend approach to reorganize the business analysis process within a financial institution's IT department using team member interviews and research of best practices

Risk Register
Reorganizing Business Analysis in an Information Technology Environment

Risk Identification							Risk Analysis				Response Planning			Risk Monitoring and Control		
Risk ID	Risk Category	Trigger Point	Potential Outcome	Raised By	Date Raised	Source	Impact	Prob-ability	Matrix Score	Qualitative Impact	Risk Strategy	Response Notes/Plan	Owner	Status	Trigger Date	Notes
1	Tech - Scope	Interview Process	There is a risk that the scope becomes unmanageable due to business analysis roles and business processes varying by team	SD	10/03/14	Other	0.4	0.5	0.20	Impact on schedule with need for multiple workflow options	Mitigate	Research Best Practices to find solutions that offer flexibility in process workflow for instances of divergent practices, but standardized where possible.	SD	Retired		
2	Org - Project Dependencies	Recruitment of participants for interviews and focus groups	There is a risk that Management will not support examination and analysis of organization processes	SD	10/17/14	Stakeholder	0.4	0.5	0.20	Valuable information can be missed if a good cross section of the department doesn't participate	Mitigate	Explain project intent and provide overview of benefits. Stress positive aspects of project to department,and get buy in from execs	SD	Resolved	01/12/15	Execs required review of all materials and list of all employees to be contacted. Contact # had to be reduced from 1/2 of staff (40) to less than 20. Narrowed down contact field to 16. Key individuals, maintaining good cross section. Gained approval of sponsor and management
3	PM - Communication	Low response to recruitment attempts by prospective interviewees	There is a risk that IT staff will be unwilling to participate in interview and focus groups	SD	10/10/14	Stakeholder	0.4	0.5	0.20	Valuable information can be missed if a good cross section of the department doesn't participate	Mitigate	Stress the value of the project at a personal and organizational level. Assure privacy and confidentiality.	SD	Retired		Mitigation approach and Exec support appear to have aided in willingness of prospecitve participant. Recruited and Interviewed 13 of 16 prospects in initial recruitment. Follow up required with < 20%
4	Tech - Technology	Data retrieval from PR system	There is a risk that will be unable to download data from the organization Project Request System to update the statistics regarding %hours spent on development	SD	10/10/14	Other	0.2	0.3	0.06	Require manual retrieval impact schedule and resource hours and possibly inaccurate data	Mitigate	Discuss with database techs and ensure data is available Request permission of sponsor to have assistance with retrieval	SD	Retired		Scheduled to have extract performed the week of 3/2/15.
5	Org - Resources	Scheduling Interviews	There is a risk that participants will not be available to participate in interviews during their work hours	SD	10/30/14	Stakeholder	0.2	0.5	0.10	Key information may be r	Mitigate	Work with potential participants to schedule when available, and keep time to a minimum	SD	Resolved		Management approved of employees being interviewed during regular work hours and supported aggressive interview timelines.

Risk Register
Reorganizing Business Analysis in an Information Technology Environment

Risk ID	Risk Category	Trigger Point	Potential Outcome	Raised By	Date Raised	Source	Impact	Prob-ability	Matrix Score	Qualitative Impact	Risk Strategy	Response Notes/Plan	Owner	Status	Trigger Date	Notes
6	PM - Communication	Data Analysis	There is a risk that answers to interview questions will not provide requirements	SD	11/21/14	Stakeholder	0.4	0.3	0.12	Weak ineffective requirements due to missing real issues	Mitigate	Use quality metrics to evaluate if answers are generating requirements. Use focus groups and Ishikawa to elicit effective responses after each round of interviews	SD	Retired		Initial review of responses in progress for data received. Questions were reviewed and refined as interviews progressed. In final stages of data analysis and appear to have good data for requirements
7	Org - Stakeholder	Attempting to Get feedback from participants when in group of other participants	Participants were for the most part very forthcoming with their analysis when meeting one on one, however a focus group might be intimidating.	SD	02/22/15	Stakeholder	0.4	0.5	0.20	Participants may hold back on honest assessment if other co-workers/managers are present in the room	Mitigate	Instead of meeting as a group, providing spreadsheet to review data and provide additional feedback. When needed will sit with participant on individual basis.		Retired		
8	Org - Project Dependencies	Unanticpated risk triggered when IRB approval was not received until January 5. Expected approval 11/24/14. Took inadequate steps to mitigate risks by reworking schedule and accelerating time on other tasks that were not dependent on approval.	If IRB approval delayed unable to start interview process, and schedule will slip	SD	01/01/15	Other	0.4	0.5	0.20	This was an unplanned risk. Triggered on 11/24/14	Accept	Process was later to start and schedule slipping in combo with unrealistic Project Schedule. PM working to review tasks and schedule to get back on track. Continuing to review possible		Resolved	11/24/14	Additional work hours were added to the PI's work scheduled. Time was taken off from work to 'catch up' and project schedule was reworked from 'days' to 'hours'.
9	PM - Estimating	Did not estimate time to perform data analysis or other tasks properly.	Risk of late completion on project	SD	03/02/15	Status Meeting	0.8	0.3	0.24	This was an unidentified risk but should have been mitigated much earlier	Mitigate	Increased hours to be worked. Worked with team to increase availability of resource by taking days off from work	SD	Resolved	02/26/15	Additional work hours were added to the PI's work scheduled. Time was taken off from work to 'catch up' and project schedule was reworked from 'days' to 'hours'.
10									0.00							
11									0.00							
12									0.00							
13									0.00							
14									0.00							
15									0.00							
16									0.00							
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24									0.00							
25									0.00							

Risk Register
Reorganizing Business Analysis in an Information Technology Environment

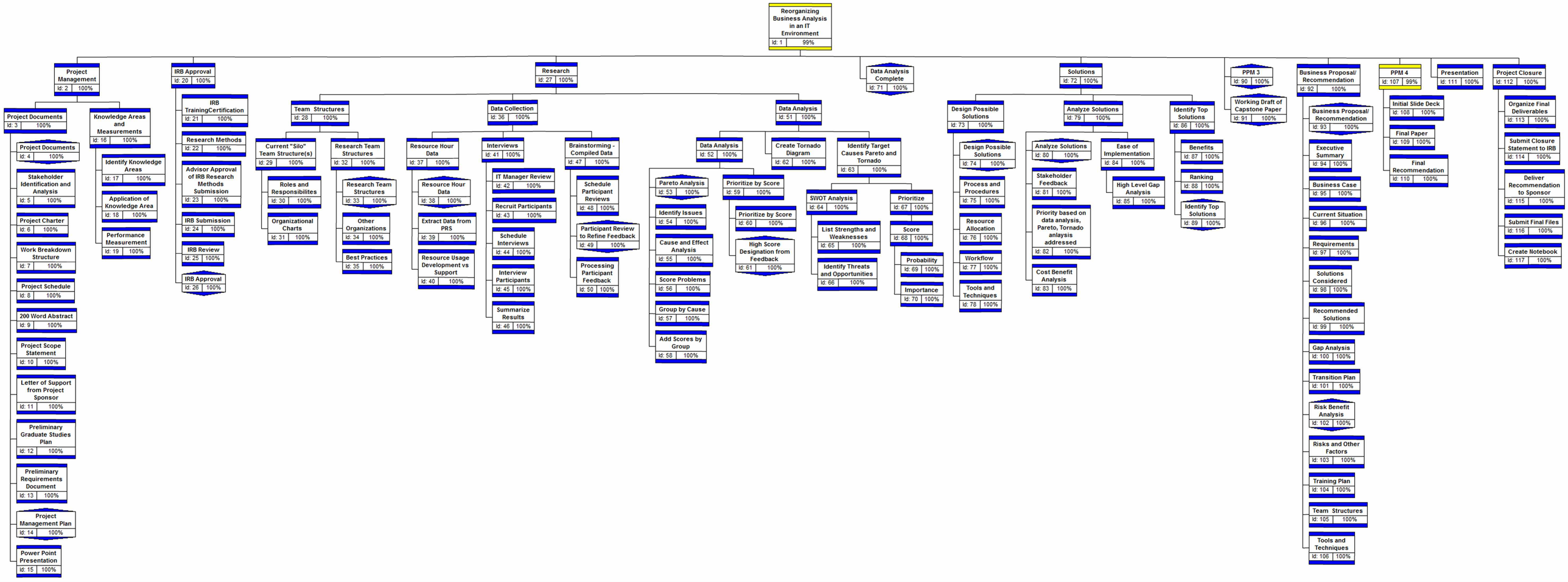
Risk ID	Risk Category	Trigger Point	Potential Outcome	Raised By	Date Raised	Source	Impact	Prob-ability	Matrix Score	Qualitative Impact	Risk Strategy	Response Notes/Plan	Owner	Status	Trigger Date	Notes
26									0.00							
27									0.00							
28									0.00							
Insert Rows Above This Line Only				Insert Rows Above This Line Only												

Reorganizing Business Analysis

ID		% Complete	WBS	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	✓	**100%**	**1**	**Reorganizing Business Analysis in an IT Environment**	**197.71 days?**	**Fri 8/29/14**	**Tue 4/28/15**		
2	✓	**100%**	**1.1**	**Project Management**	**76.57 days**	**Fri 8/29/14**	**Mon 12/1/14**		
3	✓	**100%**	**1.1.1**	**Project Documents**	**76.57 days**	**Fri 8/29/14**	**Mon 12/1/14**		
16	✓	**100%**	**1.1.2**	**Knowledge Areas and Measurements**	**69.71 days**	**Fri 8/29/14**	**Fri 11/21/14**		**Dulaney**
20	✓	**100%**	**1.2**	**IRB Approval**	**75.43 days?**	**Fri 10/3/14**	**Mon 1/5/15**		**Dulaney**
27	✓	**100%**	**1.3**	**Research**	**121.14 days?**	**Fri 8/29/14**	**Sat 1/24/15**	**20**	
28	✓	**100%**	**1.3.1**	**Team Structures**	**86.86 days**	**Sat 11/22/14**	**Tue 3/10/15**		
36	✓	**100%**	**1.3.2**	**Data Collection**	**45.71 days?**	**Mon 1/12/15**	**Mon 3/9/15**	**26**	
37	✓	**100%**	**1.3.2.1**	**Resource Hour Data**	**3.43 days?**	**Thu 3/5/15**	**Mon 3/9/15**		
41	✓	**100%**	**1.3.2.2**	**Interviews**	**16 days**	**Mon 1/12/15**	**Sat 1/31/15**		
47	✓	**100%**	**1.3.2.3**	**Brainstorming - Compiled Data**	**9.71 days**	**Wed 2/18/15**	**Mon 3/2/15**		
51	✓	**100%**	**1.3.3**	**Data Analysis**	**10.86 days?**	**Thu 2/19/15**	**Wed 3/4/15**		
52	✓	**100%**	**1.3.3.1**	**Data Analysis**	**9.71 days?**	**Thu 2/19/15**	**Tue 3/3/15**		
62	✓	100%	1.3.3.2	Create Tornado Diagram	4 hrs	Fri 2/27/15	Mon 3/2/15	61	Dulaney
63	✓	**100%**	**1.3.3.3**	**Identify Target Causes Pareto and Tornado**	**1.14 days**	**Tue 3/3/15**	**Wed 3/4/15**	**62**	
64	✓	**100%**	**1.3.3.3.1**	**SWOT Analysis**	**0 days**	**Tue 3/3/15**	**Wed 3/4/15**		
67	✓	**100%**	**1.3.3.3.2**	**Prioritize**	**0.64 days**	**Wed 3/4/15**	**Wed 3/4/15**		
71	✓	100%	1.4	Data Analysis Complete	0 days	Wed 3/4/15	Wed 3/4/15	51	Dulaney
72	✓	**100%**	**1.5**	**Solutions**	**18.29 days?**	**Tue 3/3/15**	**Wed 3/25/15**		
90	✓	100%	1.6	PPM 3	0 days	Fri 3/20/15	Fri 3/20/15	91	
91	✓	100%	1.7	Working Draft of Capstone Paper	0 hrs	Fri 3/20/15	Fri 3/20/15	71	
92	✓	**100%**	**1.8**	**Business Proposal/ Recommendation**	**11.43 days?**	**Wed 3/25/15**	**Wed 4/8/15**		
93	✓	100%	1.8.1	Business Proposal/ Recommendation	0 days?	Wed 4/8/15	Wed 4/8/15		Dulaney
94	✓	100%	1.8.2	Executive Summary	2 hrs	Wed 3/25/15	Wed 3/25/15	89	Dulaney
95	✓	100%	1.8.3	Business Case	2 hrs	Wed 3/25/15	Wed 3/25/15	89	Dulaney
96	✓	100%	1.8.4	Current Situation	2 hrs	Thu 3/26/15	Thu 3/26/15	89	Dulaney
97	✓	100%	1.8.5	Requirements	2 hrs	Sat 3/28/15	Sat 3/28/15	89	Dulaney
98	✓	100%	1.8.6	Solutions Considered	1 hr	Tue 3/31/15	Tue 3/31/15	89	Dulaney
99	✓	100%	1.8.7	Recommended Solutions	4 hrs	Wed 4/1/15	Wed 4/1/15	89	Dulaney

Reorganizing Business Analysis

ID		% Complete	WBS	Task Name	Duration	Start	Finish	Predecessors	Resource Names
100	✓	100%	1.8.8	Gap Analysis	2 hrs	Wed 4/1/15	Thu 4/2/15	99	Dulaney
101	✓	100%	1.8.9	Transition Plan	3 hrs	Sat 4/4/15	Sat 4/4/15	100	Dulaney
102	✓	100%	1.8.10	Risk Benefit Analysis	0 hrs	Sat 3/28/15	Sat 3/28/15	83,89	Dulaney
103	✓	100%	1.8.11	Risks and Other Factors	1 hr	Sat 4/4/15	Sat 4/4/15	89	Dulaney
104	✓	100%	1.8.12	Training Plan	4 hrs	Fri 3/27/15	Sat 3/28/15	89	Dulaney
105	✓	100%	1.8.13	Team Structures	3 hrs	Fri 3/27/15	Fri 3/27/15	89	Dulaney
106	✓	100%	1.8.14	Tools and Techniques	4 hrs	Thu 3/26/15	Fri 3/27/15	89	Dulaney
107	✓	**100%**	**1.9**	**PPM 4**	**8 days**	**Wed 4/1/15**	**Sat 4/11/15**		
111	✓	100%	1.10	Presentation	1 hr	Tue 4/21/15	Tue 4/21/15		Dulaney
112	✓	**100%**	**1.11**	**Project Closure**	**3.43 days**	**Thu 4/23/15**	**Tue 4/28/15**		


Reorganizing Business Analysis in an IT Environment
Id: 1 99%
Project Management
Id: 2 100%
Project Documents
Id: 3 100%
Project Documents
Id: 4 100%
Stakeholder Identification and Analysis
Id: 5 100%
Project Charter
Id: 6 100%
Work Breakdown Structure
Id: 7 100%
Project Schedule
Id: 8 100%
200 Word Abstract
Id: 9 100%
Project Scope Statement
Id: 10 100%
Letter of Support from Project Sponsor
Id: 11 100%
Preliminary Graduate Studies Plan
Id: 12 100%
Preliminary Requirements Document
Id: 13 100%
Project Management Plan
Id: 14 100%
Power Point Presentation
Id: 15 100%
Knowledge Areas and Measurements
Id: 16 100%
Identify Knowledge Areas
Id: 17 100%
Application of Knowledge Area
Id: 18 100%
Performance Measurement
Id: 19 100%
IRB Approval
Id: 20 100%
IRB TrainingCertification
Id: 21 100%
Research Methods
Id: 22 100%
Advisor Approval of IRB Research Methods Submission
Id: 23 100%
IRB Submission
Id: 24 100%
IRB Review
Id: 25 100%
IRB Approval
Id: 26 100%
Research
Id: 27 100%
Team Structures
Id: 28 100%
Current "Silo" Team Structure(s)
Id: 29 100%
Roles and Responsibilites
Id: 30 100%
Organizational Charts
Id: 31 100%
Research Team Structures
Id: 32 100%
Research Team Structures
Id: 33 100%
Other Organizations
Id: 34 100%
Best Practices
Id: 35 100%
Data Collection
Id: 36 100%
Resource Hour Data
Id: 37 100%
Resource Hour Data
Id: 38 100%
Extract Data from PRS
Id: 39 100%
Resource Usage Development vs Support
Id: 40 100%
Interviews
Id: 41 100%
IT Manager Review
Id: 42 100%
Recruit Participants
Id: 43 100%
Schedule Interviews
Id: 44 100%
Interview Participants
Id: 45 100%
Summarize Results
Id: 46 100%
Brainstorming - Compiled Data
Id: 47 100%
Schedule Participant Reviews
Id: 48 100%
Participant Review to Refine Feedback
Id: 49 100%
Processing Participant Feedback
Id: 50 100%
Data Analysis
Id: 51 100%
Data Analysis
Id: 52 100%
Pareto Analysis
Id: 53 100%
Identify Issues
Id: 54 100%
Cause and Effect Analysis
Id: 55 100%
Score Problems
Id: 56 100%
Group by Cause
Id: 57 100%
Add Scores by Group
Id: 58 100%
Prioritize by Score
Id: 59 100%
Prioritize by Score
Id: 60 100%
High Score Designation from Feedback
Id: 61 100%
Create Tornado Diagram
Id: 62 100%
Identify Target Causes Pareto and Tornado
Id: 63 100%
SWOT Analysis
Id: 64 100%
List Strengths and Weaknesses
Id: 65 100%
Identify Threats and Opportunities
Id: 66 100%
Prioritize
Id: 67 100%
Score
Id: 68 100%
Probability
Id: 69 100%
Importance
Id: 70 100%
Data Analysis Complete
Id: 71 100%
Solutions
Id: 72 100%
Design Possible Solutions
Id: 73 100%
Design Possible Solutions
Id: 74 100%
Process and Procedures
Id: 75 100%
Resource Allocation
Id: 76 100%
Workflow
Id: 77 100%
Tools and Techniques
Id: 78 100%
Analyze Solutions
Id: 79 100%
Analyze Solutions
Id: 80 100%
Stakeholder Feedback
Id: 81 100%
Priority based on data analysis, Pareto, Tornado anlaysis addressed
Id: 82 100%
Cost Benefit Analysis
Id: 83 100%
Ease of Implementation
Id: 84 100%
High Level Gap Analysis
Id: 85 100%
Identify Top Solutions
Id: 86 100%
Benefits
Id: 87 100%
Ranking
Id: 88 100%
Identify Top Solutions
Id: 89 100%
PPM 3
Id: 90 100%
Working Draft of Capstone Paper
Id: 91 100%
Business Proposal/ Recommendation
Id: 92 100%
Business Proposal/ Recommendation
Id: 93 100%
Executive Summary
Id: 94 100%
Business Case
Id: 95 100%
Current Situation
Id: 96 100%
Requirements
Id: 97 100%
Solutions Considered
Id: 98 100%
Recommended Solutions
Id: 99 100%
Gap Analysis
Id: 100 100%
Transition Plan
Id: 101 100%
Risk Benefit Analysis
Id: 102 100%
Risks and Other Factors
Id: 103 100%
Training Plan
Id: 104 100%
Team Structures
Id: 105 100%
Tools and Techniques
Id: 106 100%
PPM 4
Id: 107 99%
Initial Slide Deck
Id: 108 100%
Final Paper
Id: 109 100%
Final Recommendation
Id: 110 100%
Presentation
Id: 111 100%
Project Closure
Id: 112 100%
Organize Final Deliverables
Id: 113 100%
Submit Closure Statement to IRB
Id: 114 100%
Deliver Recommendation to Sponsor
Id: 115 100%
Submit Final Files
Id: 116 100%
Create Notebook
Id: 117 100%

Requirements Traceability Matrix											
Project: Reorganizing Business Analysis in an Information Technology Department											
Project Manager: C. Sue Dulaney											
Requirement #	**Source (Stakeholder Name or Group, Reference Document, etc.)**	**Stakeholder Register Reference**	**Requirement Description**	**Requirement Classification (business, functional, regulatory, etc.)**	**Priority H,M.L**	**WBS Work Package Reference**	**Impact**	**Acceptance Criteria**	**Risk Register Reference**	**Key Dependencies, Impacts, Constraints**	**Owner**
1	Advisory Committee	18	Develop Research Methodology	Functional	H	1.2.2	H	Approval by IRB			SD
2	UAA		IRB Approval	business	H	1.2.6	H	Receive sign off			SD
3	Scope		Document Current Team Structures	business	M	1.3.1	L	Completed Org charts and roles and responsibilities			SD
4	Scope		Resource Usage Data: Identify production support hours related to product development processes	business	M	1.3.2.1	M	Able to extend graph of past history with new data			SD
5	Scope	PM	Interview Participants	business	H	1.3.2.2	H				SD

Priority Level
High These requirements are mission critical. They are required for project/product success or for progression to the next project phase.
Medium These requirements support product/process operations but can be completed under the next product release.
Low These requirements are quality and/or functional process enhancements and are desirable if time and resources permit.

Requirements Traceability Matrix											
Project: Reorganizing Business Analysis in an Information Technology Department											
Project Manager: C. Sue Dulaney											
Requirement #	**Source (Stakeholder Name or Group, Reference Document, etc.)**	**Stakeholder Register Reference**	**Requirement Description**	**Requirement Classification (business, functional, regulatory, etc.)**	**Priority H,M.L**	**WBS Work Package Reference**	**Impact**	**Acceptance Criteria**	**Risk Register Reference**	**Key Dependencies, Impacts, Constraints**	**Owner**
6	Scope	PM	Facilitate Focus Groups	business	L	1.3.2.3	M				SD
7	WBS	PM	Record Interview Results	business	H	1.3.2.2.1	H				SD
8	Scope	PM	Perform Cause and Effect Analysis	business	H	1.3.3.1	H				SD
9	Scope	PM	Prepare Pareto Diagram	business	H	1.3.3.1	H				SD
10	Scope	PM	Perform SWOT Analysis	business	H	1.3.3.3	H				SD
11	Scope	PM	Prioritize Issues Identified by Analysis for possible changes	business	H	1.3.3.2.3	M				SD
12	Scope Document	PM	Research Best Practices for Business analysis and IT development	business	H	1.3.1.3.3	H				SD
13	Scope	PM	Research vertical vs horizontal team structures	business	M	1.3.1.3.1	M				SD

Priority Level
High These requirements are mission critical. They are required for project/product success or for progression to the next project phase.
Medium These requirements support product/process operations but can be completed under the next product release.
Low These requirements are quality and/or functional process enhancements and are desirable if time and resources permit.

Requirements Traceability Matrix											
Project: Reorganizing Business Analysis in an Information Technology Department											
Project Manager: C. Sue Dulaney											
Requirement #	**Source (Stakeholder Name or Group, Reference Document, etc.)**	**Stakeholder Register Reference**	**Requirement Description**	**Requirement Classification (business, functional, regulatory, etc.)**	**Priority H,M.L**	**WBS Work Package Reference**	**Impact**	**Acceptance Criteria**	**Risk Register Reference**	**Key Dependencies, Impacts, Constraints**	**Owner**
14`	Scope	PM	Research best practices for resource allocations of business analysis resources	business	H	1.3.1.2.3	H				SD
15	Scope	PM	Identify Possible Solutions	business	H	1.5.3	H				SD
16	WBS	PM	Analyze Solutions	business	H	1.5.2	H				SD
17	WBS	PM	Develop Recommendation	business	H	1.5.4	H				SD
18	WBS	PM	Perform Gap Analysis and CBA	business	H	1.5.4.8	H			May not have cost available	SD
19	WBS	PM	Create Transition Plan	business	H	1.5.4.9	H	Sponsor agrees to consider recommendations			SD

Priority Level
High These requirements are mission critical. They are required for project/product success or for progression to the next project phase.
Medium These requirements support product/process operations but can be completed under the next product release.
Low These requirements are quality and/or functional process enhancements and are desirable if time and resources permit.

Requirements Traceability Matrix											
Project: Reorganizing Business Analysis in an Information Technology Department											
Project Manager: C. Sue Dulaney											
Requirement #	**Source (Stakeholder Name or Group, Reference Document, etc.)**	**Stakeholder Register Reference**	**Requirement Description**	**Requirement Classification (business, functional, regulatory, etc.)**	**Priority H,M.L**	**WBS Work Package Reference**	**Impact**	**Acceptance Criteria**	**Risk Register Reference**	**Key Dependencies, Impacts, Constraints**	**Owner**
19	Change Management	PM	Perform Tornado Analysis (Tornado Diagram)	business	H	1.3.3.2	H			Rely on good feedback from participants	SD

Priority Level
High These requirements are mission critical. They are required for project/product success or for progression to the next project phase.
Medium These requirements support product/process operations but can be completed under the next product release.
Low These requirements are quality and/or functional process enhancements and are desirable if time and resources permit.

CHANGE MANAGEMENT LOG

Project Name:	Reorganizing Business Analysis in an IT Environment
Project Manager Name:	C. Sue Dulaney
Project Description:	Identify areas of concern within the IT department and provide recommendations for revisions to organizational structure, processes and procedures

ID	Current Status	Priority	Change Request Description	Assigned To Owner	Expected Resolution Date	Escalation Required (Y/N)?	Action Steps
	Open	Critical	**EXAMPLE:** Request for product functionality increase			Yes	**EXAMPLE:** Analyze impact of requested change and then meet with the change control board (CCB) to present findings for final decision on the requested change
	Work In Progress	High	**EXAMPLE:** The schedule slipped due to unexpected weather related events			No	**EXAMPLE:** Adjust the schedule to account for the weather related events
	Closed	Medium					
		Low					
1	Closed	Medium	The schedule for interviews slipped due to unanticipated delay of approval by IRB	SD	01/01/15	Yes	Adjust the schedule to adjust for late start of interviews; Increase number of interviews done/day
2	Closed	Medium	Change in approach for selection and number of participants by FI IT Managers (realized risk)	SD	01/21/15	No	Provide recruitment email, consent form, list of potential participants to IT Management for approval
3	Closed	Medium	Update schedule to add transition plan for final reorganization recommendation	SD	02/01/15	No	Add recommendation for transitioning proposed changes into targeted organization based on analysis (CBA and gap analysis)
4	Closed	Low	update risk register	SD	01/28/15	No	update risks, assign impact
5	Closed	Low	update change management process	SD	01/28/15	No	Add efficiency to change management and permit PM to own project. More detailed change management log will provide better information to advisory committee and stakeholders, improve communication
6	Closed	Low	update change management log	SD	01/28/15	No	Record new change requests, update status on existing
7	Closed	Low	update requirements	SD	01/28/15	No	Add newly approved changes to requirements document
8	Closed	Low	update requirements traceability matrix	SD	01/28/15	No	Update with new requirements and any new actions on existing entries
9	Closed	Low	update wbs	SD	01/28/15	No	Update with new requirements, synch with Gantt

CHANGE MANAGEMENT LOG

Project Name:	Reorganizing Business Analysis in an IT Environment
Project Manager Name:	C. Sue Dulaney
Project Description:	Identify areas of concern within the IT department and provide recommendations for revisions to organizational structure, processes and procedures

Impact Summary	Change Request Type	Date Identified	Assoc ID	Entered By	Actual Resolution Date	Final Resolution & Rationale
EXAMPLE: Project scope, schedule, resources, and potentially budget may all be impacted	Product	01/01/06				**EXAMPLE:** The CCB has approved the change
EXAMPLE: Project schedules, resources, and possibly budget may all be impacted	Project	01/01/06				**EXAMPLE:** Updated schedule reviewed and approved
	Other					
Project schedules, quality and resources may be affected	Project	11/26/15	sd	PM	01/25/15	Approved
Contributed to interview schedule slipping along with IRB delay	Project	01/09/15	sd	PM	01/23/15	Received approval from managers to proceed with contacting approved participant list. Contact documents approved.
Project schedule will be updated, but schedule will not be impacted. This will improve quality of final deliverable and provide improved ability to support the recommendation.	Product	02/01/15	sd	PM	02/02/15	Approved
Low impact but resource required	Project	02/01/15	sd	PM	02/02/15	Approved
Low impact but resource required	Project	02/01/15	sd	PM	02/02/15	Approved
Low impact but resource required	Project	02/01/15	sd	PM	02/02/15	Approved
Low impact but resource required	Project	02/01/15	sd	PM	02/02/15	Approved
Low impact but resource required	Project	02/01/15	sd	PM	02/02/15	Approved
Low impact but resource required	Project	02/01/15	sd	PM	02/02/15	Approved

Stakeholder Register

PM 686A C.S. Dulaney FN: Stakeholder Register Template	**Identification Information**					**Assessment Information (Their project requirements a**		
	Organization	Position/Title	Location	Role	Contact Information	Major requirements	Measures of Success	Expectations
Internal Stakeholders (internal to performing organization)								
Sue Dulaney	The Subject Organization	Sr. Business Systems Analyst	Electronic and Card Applications	Project Manager	X 2171	Improve Business Analysis allocating process. Reduce day-to-day support requirements		
Mike Brady	The Subject Organization	Vice President, IM Governance	Information Management	Project Sponsor	X 2347	Rework BA structure; cross team availability ; standardized processes		Improve business analysis; increase resources for dev projects
John Shipe	The Subject Organization	CIO	Management Information Systems	Stakeholder	X 2994	Increase resource availability		Complete annual project initiatives on time
Mike Longlet	The Subject Organization	Senior Vice President, IM Applications	Information Management	Stakeholder	X 2700	Increase resource availability		Improve vendor selection process
Tim Mielak	The Subject Organization	Applications Group Manager	Information Management	Stakeholder	X 2168	Reduce number of trouble tickets opened and support hours		Time to do more cutting edge projects

Stakeholder Register

PM 686A C.S. Dulaney FN: Stakeholder Register Template	**Identification Information**					**Assessment Information (Their project requirements a**		
	Organization	Position/Title	Location	Role	Contact Information	Major requirements	Measures of Success	Expectations
Internal Stakeholders (internal to performing organization)								
Mike O'Reilly	The Subject Organization	Applications Group Supervisor	Information Management	Stakeholder	X 6335	Reduce time spent on re-working program code		
Cameron Taylor	The Subject Organization	Programmer Analyst III	Information Management	Stakeholder	X 2176	Stay off phone,		
Bill Pollard	The Subject Organization	Sr. Programmer Analyst	Information Management	Stakeholder	X 2758			
Ian Keating	The Subject Organization	Sr. Programmer Analyst	Information Management	Stakeholder	X 2167			
Tracey Seidel	The Subject Organization	Sr. Business Systems Analyst	Information Management	Stakeholder	X 2508			
Marcella Knowlton	The Subject Organization	Applications Group Supervisor	Information Management	Stakeholder	X 2566			
Cindy Deats	The Subject Organization	Sr. Business Systems Analyst	Information Management	Stakeholder	X 2571			
Eric Buring	The Subject Organization	Business Systems Analyst II	Information Management	Stakeholder	X 6619			

Stakeholder Register

PM 686A C.S. Dulaney FN: Stakeholder Register Template	**Identification Information**					**Assessment Information (Their project requirements a**		
	Organization	Position/Title	Location	Role	Contact Information	Major requirements	Measures of Success	Expectations
Internal Stakeholders (internal to performing organization)								
Angie Bryan	The Subject Organization	Sr. Business Systems Analyst	Information Management	Stakeholder	X 2589			
Steph Enders	The Subject Organization	Sr. Business Systems Analyst	Information Management	Stakeholder	X 3945			
Charity Chamberlain-Reopelle	The Subject Organization	Business Systems Analyst II	Information Management	Stakeholder	X 6003			
LuAnn Piccard	UAA	PM Program Director	MSPM Office	Committee Member	786-1917 lpiccard@uaa.alaska.edu			
Roger Hull	UAA	Instructor	MSPM Office	Committee Member	786-1923 rkhull@uaa.alaska.edu			
Jim Bates	UAA	Adjunct Professor	MSPM Office	Committee Member	854-6790 jlbates@go-big.com			
Seong Dae Kim, Ph.D	UAA	Associate Professor	MSPM Office	Committee Member	786-1922 sdkim2@uaa.alaska.edu			

nd expectations)	
Primary Concerns	Other helpful info
	Keep informed
	Keep informed
	Keep informed

nd expectations)	
Primary Concerns	Other helpful info

nd expectations)	
Primary Concerns	Other helpful info

PROJECT CHARTER

Reorganizing Business Analysis in an Information Technology Environment

Abstract

This project was initiated to identify changes needed for the existing structure of the business analysis process and the organization of Business Analysts within the Information Technology (IT) department of a major financial institution. The organization currently experiences a large number of quality issues that are found after the products are implemented rather than during project Initiation, Planning or Execution phases. This results in re-work costs, shortage of resources for strategic initiatives and issues with both employee morale and customer satisfaction. Management has identified weak business analysis processes as a key driver in the high number of resource hours spent on day-to-day unplanned issues.

Analysis of data collected from interviews conducted with a cross-section of the IT staff were used to identify areas to be considered for process improvement. The current state was researched using data obtained from the interview process and data analyzed and prioritized using Cause and Effect Analysis. Pareto and Tornado analysis provided further insights into the data. Using the results of the data analysis, some potential short-term and long-term solutions were selected to address identified weaknesses, and potentially reduce time spent on unanticipated non-discretionary tasks,

Contents

1 EXECUTIVE SUMMARY

The Information Technology (IT) Department of a local credit union is responsible for development and support of all technology solutions for the organization. The department is well staffed with business analysts and programmers to support these goals. With the number of resources available and the skill levels of those resources, the department has the capacity to be a premier IT shop.

Ideally business analysts would be available across all teams using consistent procedures. They could provide "best fit" solutions that meet the needs of their business units, ensure the solutions integrate with existing applications and provide high quality deliverables while leading the effort to complete the annual technology portfolio on schedule.

Unfortunately, in the current environment business analysts are siloed within application teams restricting their exposure to the "big picture", and only involved on other teams' projects where there is obvious crossover of applications. Quality issues have resulted in solutions that are missing key functionality needed by the business units, a high number of "bugs" are reported immediately following implementation and there are increased member and internal issues to investigate and resolve. As a result, there are costs to the IT Department and the credit union as a whole.

It is estimated that less than 60% of the key initiatives within the technology plan portfolio were completed last year meaning that projects designed to provide additional benefit to the membership were not delivered, impacting the credit union's ability to maintain a competitive edge and potentially losing revenue.

Moreover, the quality issues result in a loss of reputation and lower the morale of the IT staff. Data analysis by IT Governance shows that only about 12% of IT resource hours were spent on the technology initiatives in 2011 projects and projections show that number to be steadily decreasing while the number of hours spent on support is increasing. Management has identified weak business analysis processes in requirements gathering and testing as key contributors to this situation.

Business analysis has a strong impact on the success or failure of the annual technology project portfolio. Interviews and focus groups will be used to identify the key drivers of these issues, using both Cause and Effect and SWOT Analysis to prioritize possible solutions, and developing a proposal of potential changes based on Best Practices.

Additionally, changes to the allocation of business analysis resources will be researched to determine the advantages and disadvantages of moving to a horizontal structure. Having business analysts assigned to projects across all teams could maximize resource usage and broaden the knowledge of the business analysts, increasing productivity and improving quality.

Recommendation for changes will be driven by the feedback from the data analysis and stakeholder focus groups to ensure stakeholder buy in. It is anticipated that these changes will decrease the time programmers and business analysts spend on day-to-day issues, and free them up to address the key strategic initiatives so important to the success of the organization.

2 PURPOSE OF THIS DOCUMENT

The purpose of a Project Charter is to record agreement among the project team members and sponsors that the scope, assumptions, and limitations of the project are understood. The Project Sponsor must approve the Charter before work proceeds.

This Project Charter ensures that all project stakeholders share a common understanding of:

- Sponsor's need for increased resource availability for organization's key initiatives
- The scope of this project is to provide a formal recommendation to improve business analysis processes and organizational structure
- Roles, responsibilities and functions of the project team are detailed in the stakeholder register.

If any changes occur that affect the content of this Charter, then the Charter must be modified. Change in one part of the Charter may affect any or all other parts of the Charter, including the schedule and scope. In this case a Project Charter Addendum will be prepared for Project Sponsor approval.

3 PROJECT JUSTIFICATION

The organizations inability to complete annual goals affects MIS Information Management Applications and the credit union as a whole as key projects are delayed or canceled each year. These initiatives are important to keep the credit union competitive in today's fast changing market and to meet its financial and business goals. In addition, the members of the credit union and staff are adversely affected by production issues which can affect the organization's reputation, its financial strength and the morale of its employees. Process improvement to the project requirements gathering and/or testing processes are expected to reduce the number of issues being introduced into production and free up resources to do more product development.

4 PROJECT PURPOSE

This project will provide recommendations to enhance the overall success of the IT department and the credit union. The goals include:

- Increase business unit satisfaction by providing more of the key initiatives each year
- Support business analysts in their day-to-day roles by providing consistent performance
- Reduce the number of production support hours that interrupt employees and interfere with meeting product development deliverable schedules.
- Improve job satisfaction and morale by providing business analysts with wider organizational exposure and reducing job stress caused by unexpected, high visibility production issues.

In addition there will be benefits to other areas within the credit union, including:

- Improve member satisfaction by having fewer errors in member facing applications
- Improve staff satisfaction by having fewer day-to-day issues while trying to perform their job functions
- Reduce the number of calls coming into the Member Services and Online Support departments for the member facing applications

5 SCOPE

This project is being undertaken to discover whether changing the existing structure of business analysts within the IT department of a major financial institution and improving certain processes and procedures would improve the utilization of resources by decreasing the number of hours IT resources spend on resolving day-to-day production issues.

The organization currently experiences a large number of quality issues that are found after the products are implemented rather than during development and test. This situation results in rework costs, shortage of resources for strategic initiatives and employee morale and customer satisfaction issues.

Research will be conducted to assess the status quo, investigating alternative methods for assigning business analysis resources, interviewing Stakeholders, analyzing the data, and researching best practices for business analysis.

- The current vertical or "silo" team structure will be analyzed and a SWOT analysis conducted using inputs from interviews with team members at all levels of the department.
- A cause and effect diagram will be prepared and a "Pareto" analysis of the causes will be produced.
- A cross-organizational approach for provision of business analysis services will be examined.
- Current work flow will be reviewed and analyzed.
- Production support hours versus development hours of the IT staff will be analyzed using data obtained from the organization's Project Request System.
- Best practices and other IT organizations' methodologies will be researched.

The project will deliver to the project sponsor a Business Proposal containing recommendations for changes along with supporting documentation, such as organizational charts, revised processes and procedures and tools and techniques identified as beneficial to reducing the percent of IT resource hours spent on production support. It will also include a cost/benefit analysis of the proposed improvements.

The project is targeted for completion by April, 2015. Since this project is being performed on a volunteer basis and no expenses anticipated, there is no monetary budget.

5.1 PROJECT COMPLETION DEFINITION

The project will be completed when the Business Proposal is completed and the Project Sponsor agrees to consider the recommendations provided in the document.

5.2 PROJECT ASSUMPTIONS

This research assumes that the key drivers of production support hours interfering with having resources available for product development are related to inconsistent business analysis processes and procedures which are further magnified by business analysts being organized vertically in the organization.

Additionally, the research assumes that there are no shifting priorities or changes in business objectives by the Board of Director, and thereby changing the Information Technology department's focus.

5.3 PROJECT CONSTRAINTS

This project will focus on improving business analysis within the Information Technology department and the most effective way to allocate these resources.

5.4 CRITICAL SUCCESS FACTORS

All of the following factors are critical to the success of this project.

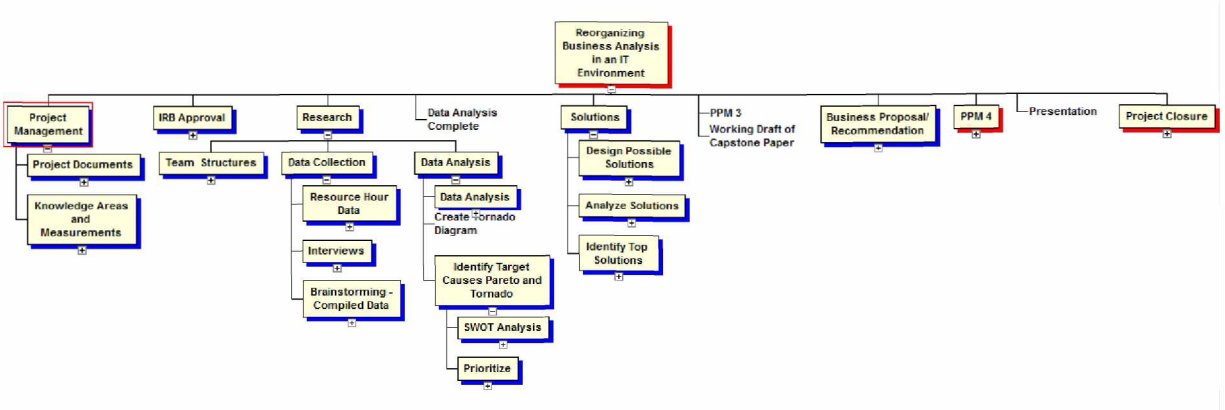
- Access to staff within multiple teams within the Information Management department
- Ability to access data within the Project Request System and perform predictive analysis
- Co-operation of the IT Department management
- Good working relationship with Capstone Advisor and Committee
- Ability to interface with the Portfolio Management department to ensure integration with their vision
- Co-operation from the case study organization.

6 SCHEDULE

[5.2 - Project Schedule.final.Dulaney.Reorganizing Business Analysis.042515.mpp]

ID		% Complete	WBS	Task Name	Duration	Start	Finish	Predecessors
1		99%	1	Reorganizing Business Analysis in an IT Environment	197.71 days?	Fri 8/29/14	Tue 4/28/15	
2	✓	100%	1.1	Project Management	76.57 days	Fri 8/29/14	Mon 12/1/14	
3	✓	100%	1.1.1	Project Documents	76.57 days	Fri 8/29/14	Mon 12/1/14	
16	✓	100%	1.1.2	Knowledge Areas and Measurements	69.71 days	Fri 8/29/14	Fri 11/21/14	
20	✓	100%	1.2	IRB Approval	75.43 days?	Fri 10/3/14	Mon 1/5/15	
27	✓	100%	1.3	Research	121.14 days?	Fri 8/29/14	Sat 1/24/15	20
28	✓	100%	1.3.1	Team Structures	86.86 days	Sat 11/22/14	Tue 3/10/15	
36	✓	100%	1.3.2	Data Collection	45.71 days?	Mon 1/12/15	Mon 3/9/15	26
37	✓	100%	1.3.2.1	Resource Hour Data	3.43 days?	Thu 3/5/15	Mon 3/9/15	
41	✓	100%	1.3.2.2	Interviews	16 days	Mon 1/12/15	Sat 1/31/15	
47	✓	100%	1.3.2.3	Brainstorming - Compiled Data	9.71 days	Wed 2/18/15	Mon 3/2/15	
51	✓	100%	1.3.3	Data Analysis	10.86 days?	Thu 2/19/15	Wed 3/4/15	

7 WORK BREAKDOWN STRUCTURE (WBS)



7.1 PRELIMINARY MILESTONE DELIVERABLE DATES

Milestones	Estimated Completion Timeframe
IRB Approval	November 21, 2015
Project Management Plan Approval	November 26, 2015
Perform interviews	December 30, 2014
Complete "Pareto" Analysis	January 26, 2015
Perform SWOT Analysis of Cause/Effect	January 28, 2015
Design Proposed Process Changes	February 6, 2015
Perform Organizational Risk Analysis	March 17, 2015
Deliver Business Proposal for Approval to Project Sponsor	April 8, 2015

8 TEAM AND STAKEHOLDERS SUMMARY

8.1 MANAGEMENT TEAM

Project Sponsor – Mike Brady

Project Stakeholders – Business Analysts, Programmers, Supervisors, and Group Managers, Organizational Management Team, and customers as detailed in the Stakeholder Analysis

8.2 PROJECT TEAM

Project Manager – C. Sue Dulaney

Project Advisor – Roger Hull

Project Committee – LuAnn Piccard, Jim Bates, Seong Dae Kim, Ph.D.

9 RISKS IDENTIFICATION

Risks include the following:

- The scope of the project growing unmanageable if it is found that due to diversity of teams, multiple approaches will be needed.
- Unwillingness of project stakeholders to participate in interviews and requirements gathering.
- Inability to quantify resource hours spent on production and maintenance issues versus development projects
- Unwillingness of management to permit examination of their processes and procedures.
- Inability to identify a one-size fits all solution that would permit true standardization of procedures

10 APPROVAL

Signature: _____

Name: **Mike Brady**

I agree that the scope as defined in this document is acceptable. I also agree to provide funding for this project as it is defined in this document.

Signature: _____

Name: **Roger Hull**

I agree that the scope as defined in this document is acceptable. I also agree to assist in the delivery of the scope as it is defined in this document. I recognize that the responsibility for the delivery of the scope and the authority on this project rests with the Project Owner.

11 NOTES TO VERSIONS

Version	Author(s)	Role	Date
0.1	Dulaney	Project Manager	9/4/14
Description of Version (or modifications) : Preliminary Draft of Project Charter			
0.2	Dulaney	Project Manager	9/25/14
Description of Version (or modifications) : Revisions based on Committee feedback and updating risks			
0.3	Dulaney	Project Manager	10/17/14
Description of Version (or modifications) : Revised Project Scope and Project Title			
0.4	Dulaney	Project Manager	12/8/14
Description of Version (or modifications) : FINAL Update and refine Project Charter			
0.5	Dulaney	Project Manager	4/25/15
Description of Version (or modifications) : Review and update Abstract, Project Schedule and WBS			

Michael S. Brady
P.O.Box 196613
Anchorage, AK 99519-6613
September 9, 2014

Ms. Piccard
University of Alaska Anchorage
University Center, Room 155
3901 Old Seward Highway
Anchorage, AK 99503

Dear Ms. Piccard,

I am pleased to acknowledge my support for Sue Dulaney's Capstone project to optimize resource availability for key initiatives by improving the processes and procedures used in software product development. Our organization is continually looking for ways to improve quality, enhance member satisfaction and increase our competitive edge. Her proposed work could lead to new efficiencies, resulting in a reduction in the level of effort to maintain the technology deployed to support our business. In turn, we can reinvest that time on new development projects to improve products and services.

While internalizing many of the valuable lessons learned from your MSPM program, Sue continues to identify ways to refine our processes and increase quality and productivity. I am excited to be able to support Sue in this process and look forward to benefits which this research can provide to our organization.

Sincerely,

Michael S. Brady
Vice President, IM Governance
Alaska USA Federal Credit Union